The Design of National Health Insurance: Evaluation of Options for Jamaica

Stanley Lalta

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Health Policy Unit
Department of Public Health and Policy
London School of Hygiene and Tropical Medicine

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Abstract

This study presents findings from evaluating, ex ante, the options, implications and feasibility of a major health financing policy change from a largely tax-based to a contribution-based system following universal national health insurance (NHI) principles. The case country used is Jamaica a small middle-income country faced with persistent fiscal and health financing constraints and prodded into the policy choice of NHI in 1996 by recommendations of consultants, international organizations as well as the opportunity provided by its externally funded Health Reform Programme (1997-2005).

The approach adopted was to define NHI options by commencing with government's proposals in its 1997 Green Paper on NHI as the baseline; ascertaining from local stakeholders their recommendations for an NHI plan and eliciting lessons and design variables from the international experience with NHI-type systems to derive a prototype. This was followed by financial modelling of likely inflows and outflows in each option; assessment of their merits and viability using criteria such as population coverage, benefits, risk pooling, equity, efficiency, and size of contributions by workers and government; and ranking of scores to derive a preferred option.

As an ex ante analysis (since NHI has not been implemented in Jamaica), the study found the prototype to be the highest ranked option. It also found that continuing macroeconomic difficulties, institutional weaknesses and likely opposition from some key stakeholders - factors which affected confidence and derailed the 1997 NHI proposals - would still pose major challenges for decision makers and planners.

In terms of overall significance, the study highlights international ambivalence over key design aspects of NHI such as single vs. multiple payers; phased vs. comprehensive benefit package and timing of universal coverage. For implementing NHI in Jamaica, it suggests areas for further research and action such as specifying and phasing benefits; improving collection systems, quality of health services and targeting subsidised groups as well as achieving stakeholder consensus.

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Currency Equivalents

Jamaica implemented a floating exchange rate system in the 1980's, pegging the Jamaica dollar to a basket of currencies. Since then, the average exchange rate changed as follows:

- 1982 US$1.00 = J$1.78
- 1990 US$1.00 = J$7.00
- 2000 US$1.00 = J$44.00
- 2008 US$1.00 = J$77.00 (at end-December)

Abbreviations and Acronyms

ASLC	*Annual Survey of Living Conditions*
CCF	*Catastrophic Care Fund*
DALEs	*Disability Adjusted Life Expectancy*
DALYs	*Disability Adjusted Life Years*
DCs	*Developing Countries*
GNI	*Gross National Income*
GPP	*Green Paper Proposals (on NHI)*
GTZ	*Deutshe Gesellschaft fur Technische Zusammenarbeit*
HALEs	*Health Adjusted Life Expectancy*
HI	*Health Insurance*
HRP	*Health Reform Programme*
ICs	*Industrialised Countries*
IDB	*InterAmerican Development Bank*
ILO	*International Labour Organisation*
IMF	*International Monetary Fund*
LICA	*Life Insurance Companies of Jamaica*
LSHTM	*London School of Hygiene and Tropical Medicine*
MAJ	*Medical Association of Jamaica*
MOF	*Ministry of Finance*
MOH	*Ministry of Health*
MOH (R)	*Ministry of Health Recurrent Expenditure*
MOH (C)	*Ministry of Health Capital Expenditure*
MOH (T)	*Ministry of Health Total Expenditure (Recurrent plus Capital)*
NHF	*National Health Fund*
NHI(P)	*National Health Insurance (Programme)*
NIS	*National Insurance Scheme*
NLM	*National Library of Medicine*
OECD	*Organisation for Economic Cooperation and Development*
p.a.	*Per Annum*
p.c.	*Per Capita*
PAHO	*Pan American Health Organisation*
PATH	*Programme for Advancement Through Health and Education*
PAYGR	*Pay As You Go Rate*
PHC	*Primary Health Care*
PIOJ	*Planning Institute of Jamaica*

PPP$	*Purchasing Power Parity ($)*
PT	*Prototype (NHI)*
QALYs	*Quality Adjusted Life Years*
RHA	*Regional Health Authority*
RHA(R)	*Regional Health Authority Recurrent Expenditure*
SAP	*Stakeholders' Alternative Proposal (on NHI)*
SBP	*Standard Benefit Package*
SHI	*Social Health Insurance*
STATIN	*Statistical Institute of Jamaica*
TGE	*Total Government Expenditure (Recurrent plus Capital)*
UK	*United Kingdom*
UNICEF	*United Nation Children's Fund*
USA	*United States of America*
WB	*World Bank*
WHO	*World Health Organisation*

CHAPTER 1: INTRODUCTION AND RATIONALE FOR STUDY

1.1 Overview

This study is primarily concerned with evaluating, ex ante, the options, merits, implications and overall feasibility of a major health financing policy change from a universal coverage system largely funded by taxes (budgetary allocations) to one based on national health insurance (NHI) principles largely funded by earmarked compulsory contributions. The case country used in the evaluation is Jamaica - a small, middle income developing country[1] located in the Caribbean region with a population of 2.67 million persons and Gross National Income (GNI) per capita of US$3480 or PPP$4030 in 2006 (World Bank, 2007).

Given the global surge of interest in public policy reforms and in health and health financing reforms engendered by neo-liberal adjustment approaches since the 1980's (World Bank 1987 and 1993; OECD, 1992; Kutzin, 1995; Musgrove, 1996; Bennett, Russell and Mills, 1996; Mills, 1999), the study draws on theoretical discussions and lessons of international experience in health financing, with emphasis on compulsory health insurance systems, to examine the specific contextual and design factors that influenced the policy choice of a universal NHI approach in Jamaica in 1997. In the examination, a mix of stakeholder analysis, emerging best practice, financial modelling and an assessment matrix are utilized to define, evaluate and explore the implementability of a 'preferred option' from among alternative NHI designs.

By NHI in Jamaica is meant a health financing system that has 6 main features:

- it aims to cover all persons in the population (universal coverage) from the outset rather than selective groups such as formal sector workers or groups defined by income, geographical location, age or health condition;
- it is based on social solidarity and community insurance principles which emphasise pooling and cross-subsidy of health risks and income i.e., contributions which are broadly payroll-related and based on

[1] The definition and classification of a 'small' country is taken from the Commonwealth Advisory Group (1997) which posits population size of less than 1.5 million and/or having the 'characteristics of smallness' as key features such as small land mass and GDP. The Group deemed Jamaica as having the 'characteristics of smallness'. That of 'middle income' is taken from the World Bank (2007) with Gross National Income (GNI) per capita of $906-$3,595 used as the range for 'lower middle income' countries and $3,596-$11,115 for 'upper middle income'.

individual/household ability to pay along with targeted State support for those unable to contribute;

- it emphasizes prepayment rather than direct out of pocket payment at the time of accessing health services;
- it has a generally well-defined health care services benefit package and defined relations with health providers;
- access to the benefits package is directly linked to one's membership status (rather than more open-ended as in most tax-financed health systems);
- it is defined by specific facilitating legislation and is administered separately from the established Ministry of Health by a new public statutory body or through formal agreements with private insurance entities.

The roots of NHI may be traced to social health insurance (SHI) schemes in the early 1880's in Germany among formal sector workers and their dependents. Variants of this 'Bismarckian' model have been proposed, attempted or established worldwide in industrialized and developing countries (ICs and DCs respectively) in subsequent years (Ron, Abel-Smith and Tamburi, 1990; Glaser, 1991; Roemer, 1993; World Bank, 1993; World Health Organisation (WHO), 2000; Carrin and James, 2004; Mills, 2007). Recognising the need to avoid the negative implications of exclusion of certain groups in these schemes, more vigorous and systematic attempts (reforms) have been made (and are being made) especially since the 1980's to extend population coverage to all groups. Around the same time, the challenges of general financial constraints, managerial inefficiencies and weaknesses in the delivery of health services in several countries with tax-funded health systems were eliciting proposals and programs for new risk pooling, management and financing arrangements (Donaldson and Gerard, 1993; World Bank, 1993; Mills, 1999). With universal coverage and sustainability as the main goals, these initiatives in countries with dominant SHI and tax-funded mechanisms have resulted in more blended health financing systems characterized by more defined linkages between taxes and compulsory contributions as sources of funds for health services (Mills, 1998 and 2007; WHO, 2000; Savedoff, 2003; Gottret and Schieber, 2006).

A fairly substantial body of literature now exists describing the features, successes, shortcomings and policies adopted or attempted as national health financing systems sought to adjust to changing social, economic and health imperatives. Issues such as

universality of coverage, components of the benefit package, cost control, fiscal space, efficiency and sustainability feature prominently in the debates and proposals for improving performance of NHI-type financing systems (Hoffmeyer and McCarthy, 1994; Nitayarumphong and Mills, 1998; Normand, 1999; WHO, 2000; Saltman, Busse and Figueras 2004; Heller, 2006; Wagstaff, 2007).

Small middle income DCs, with health and health financing challenges that reflect a mix of those in ICs and low income DCs, have largely been ignored in this broad body of research. Yet, for many of them, recommendations from multilateral agencies and policy analysts have repeatedly identified NHI as a potentially useful financing mechanism. As such, the mix of the multi-faceted international experience with NHI as described in the research literature and policy recommendations from influential groups and international organizations forms the basis in this thesis for exploring the choice and applicability of NHI-type systems in Jamaica - a small DC struggling to secure an adequate, stable and equitable source of financing to meet current and projected health needs.

1.2 NHI Systems and Global Interest

There are several terms which are used regularly and in some instances, interchangeably when defining and discussing NHI systems. Among these are "public health insurance"; "statutory health insurance"; "social health insurance"; "universal social health insurance"; "compulsory health insurance", "national health insurance", "Bismarckian model" and "social health protection". Some confusion can arise since each of these involves a large measure of compulsion through a mix of taxes and statutory deductions (i.e. specific mandatory payments to be made from one's income or earnings) as against voluntary payments such as private health insurance premiums and out of pocket payments. The situation is not helped by the formal descriptions and references of some NHI subsystems as "national" e.g. the financing plan for the poor and disabled in Japan (Glaser, 1991; Ikegami and Hasegawa, 1995) or "social" e.g. Medicare and Medicaid in the United States of America (USA) (Fuchs, 1993; Aaron, 1996; Glied, 2008).

For clarity and consistency, this study uses NHI to mean a mandatory plan aimed at covering all residents as contributors and/or beneficiaries (i.e. universal coverage[2])

[2] Universal coverage is defined by Gilson et.al (2007) as an absolute concept meaning that the whole population of a country (100%) has access to good quality care regardless of income, social status or

with compulsory payments being made from one's earnings or income either through earmarked payroll taxes or other health specific levies. Persons who are not in formal employment and from whom deductions cannot be made as above are also mandated to contribute to the NHI plan either through fixed percentages of their assessed income or through fixed absolute payments (with or without subsidies from the State). The contributions for persons who are unable to pay e.g. the poor, the unemployed and their dependents are made by the State wholly or partly from tax funds. The funds collected through these deductions are specifically and totally targeted to purchasing health services rather than placed into a government's consolidated fiscal account for allocation to various Ministries including health after internal budgetary debates. The funds are pooled and managed by a single or several public agencies or by competing public and private agencies. These agencies are also responsible for developing purchasing plans to secure health services for their members and reimbursing providers of the health services.

Examples of this NHI-type system where pooled contributions represent the dominant source of funds and general tax-based collections provide targeted support are to be found in Germany, France, South Korea, Japan, Taiwan and Costa Rica. The social security based health insurance plans in most of Latin America, Asia and some parts of Francophone Africa which generally cover formal sector workers can be seen as limited and incomplete NHI systems since they do not provide universal coverage and are quite segmented (Roemer, 1993; World Bank, 1993; Londono and Frenk, 1997; Carrin and James, 2004; Gottret and Schieber, 2006). NHI is one possible approach towards universal health coverage i.e. general access to health services for all citizens (Fuchs, 1993; Hoffman and McCarthy, 1994; Mills, 1998 and 2007; WHO, 2000; Gottret and Schieber, 2006; Wagstaff, 2007). In this approach, access to the package of services covered is a right of entitlement as a current member i.e., one's contribution obligations are up-to-date.

In contrast, universal coverage can also be achieved through largely tax-funded health systems such as in the United Kingdom (UK), Sweden, New Zealand, Canada and Denmark where access is a right of citizenship or one's resident status (legal) and is not dependent on a specific earmarked contribution for health services from the

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residency. Mills (1998 and 2007) and Evans (2007) extend the definition to incorporate the policy objectives of equity in payments (the rich pay more than the poor); financial protection (persons should not become impoverished as a result of using health care) and equity in access or utilization (implying distribution according to need rather than ability to pay).

individual or household. More recently, as in Thailand, universal coverage may be achieved through a more deliberate and targeted mix of dominant tax-based financing alongside social insurance contributions and out of pocket payments (Nitayarumphong and Pannarunothai, 1998; Jongudomsuk, 2006). In some countries, targeted voluntary community health insurance and private health insurance may serve as complementary sources of funds to compulsory contributions so that blended systems emerge with the key criteria being pre-payment and appropriate access to services (WHO, 2000; ILO (International Labour Organisation), 2007; Gottret and Schieber, 2006).

Despite wide differences in objectives and starting conditions, the current upsurge of interest in NHI systems among policy-makers and researchers in ICs and DCs generally emanated from actions, proposals and ongoing programmes for reforming their public expenditure systems, health sector and health financing mechanisms (World Bank, 1987 and 1993; Organisation for Economic Cooperation and Development (OECD), 1992; Mills, 1999; WHO, 2000; Mills, Bennett and Russell, 2001; Docteur and Oxley, 2003; Heller, 2005). More specifically:

a) In DCs with fairly significant tax-funded health systems and limited social health insurance programmes, economic and budgetary difficulties have constrained the ability of the State to continue to fund the health sector at previous levels. Attempts to find alternative sources of financing led to the implementation or expansion of user fee programmes and some social and community health insurance schemes (Abel-Smith and Creese, 1989; WHO, 1993; World Bank, 1993; Shaw and Griffin, 1995). The examples of NHI-type programmes in several ICs and DCs (Ron, Abel-Smith and Tamburi, 1990; Glaser, 1991; Roemer,1993; La Forgia, 1993; Saltman and Figueras, 1997) as well as the recommendations of several international organisations such as the World Bank (World Bank, 1987 and 1993; Shaw and Ainsworth, 1993), the ILO (Ron, 1993; Normand and Weber, 1994; Dror, 2000) and WHO (Kutzin and Barnum, 1994; Sergeant and Carrin, 1995) encouraged policy makers to explore the possibilities of NHI as a key financing option;

b) In DCs with traditionally selective social health insurance programmes e.g. Mexico, Colombia, Argentina and Egypt problems of segmented population groups, access, choice of benefit packages and cost escalation led to serious concerns over inequalities in access and fiscal sustainability

necessitating major reforms with universal coverage as a key objective (Mesa-Lago, 1989; Griffin, 1990; Londono and Frenk, 1997; Gottret and Schieber, 2006, Hsiao, 2006; Wagstaff, 2007);

c) In some formerly socialist countries of Eastern Europe, the decline of the paramount State and the "Semashko" model of public integrated health systems as well as the negative social impact of privatised approaches to health services have led policy makers to establish or propose NHI systems (Sheiman, 1992 and 1994; Ensor, 1993; Preker et al., 1996; WHO, 2000; Carrin and James, 2004; Kutzin, 2007);

d) In ICs without substantial NHI programmes and which rely more on private health insurance such as the USA, problems of cost escalation, international competitiveness of firms, under- and un-insured groups and inequity have led to an intensification of the debate over health financing reforms including the role of a NHI programme (Navarro, 1989; Blendon and Donelan, 1990; Glaser, 1993; Fuchs, 1993; Hoffmeyer and McCarthy, 1994; Steinmo and Watts, 1995; Docteur et al., 2003, Gottret and Schieber, 2006);

e) In some ICs such as Italy, Portugal and Spain, persistent issues with solvency, fragmentation and differential access to benefits by members and non-members in their traditional social health insurance programmes led to their dissolution and adoption of more tax-based financing methods (OECD, 1992; Roemer, 1993; Saltman and Figueras, 1997; Preker, 1998);

f) In ICs with NHI based on established SHI programmes such as Germany, Holland, France and Japan concerns over cost containment, efficiency of pooling, choice and competitiveness led to major reforms in consolidation of insurers, benefit coverage and blending general taxes with payroll deductions. (OECD, 1987 and 1992; Ham, 1997; Saltman and Figueras, 1997; Docteur and Oxley, 2003; Mossialos and Thompson, 2004).

Based on the above it seems that while some countries are considering or moving towards the adoption of NHI-type programmes, others are busily engaged in reforming their schemes while others opted to terminate them. At the operational level, this suggests the need for ongoing review, assessment, validation and continuous re-engineering to ensure that the objectives of the programme and the overall health system are being met. More specifically, at the policy making level in those countries

seriously contemplating the introduction of NHI-type programmes, it calls for detailed examination of the theory and empirical basis i.e., the underlying macroeconomic, macrosocial and health-specific factors to inform decisions on programme choice, design and implementation so as to avoid the pitfalls and optimise the gains of NHI.

1.3 Health Financing Concerns in Jamaica

The health financing concerns facing Jamaican policy makers in 1997 (when field research commenced) and which have continued to the present bore several similarities to those in most DCs - how to increase and sustain health gains with an adequately funded, universal coverage financing system. 1997 was a landmark year for the health system, since after several months of discussing proposals and options, a formal agreement for a loan-funded Health Reform Programme (HRP) was signed with the Inter-American Development Bank (IDB). The design and implementation of NHI was specified as one of the principal reform measures in the HRP.

Jamaica's health system reflects a mix of public and private financing and provision of services. The public sector provides (in publicly owned facilities) and finances (through tax funds) the majority of secondary/tertiary care services while the private sector is more dominant in providing ambulatory services (office consultations, drugs, diagnostics) usually financed through direct payments. The health status of the population has improved significantly over the last few decades. However, economic difficulties since the late 1970's followed by rigorous structural adjustment measures in the 1980's and slow, uneven growth in the 1990's and early 2000's placed considerable stress on the ability of the State to provide the level of support needed in the health sector (Abel-Smith, 1989; Cumper, 1993; Trevor Hamilton and Associates, 1989; Theodore, 1997; World Bank (WB), 1996). This was exacerbated by the substantial reduction in external grants and aid from the late 1980's as the Cold War receded and the country's middle income status made it less deserving in the eyes of international donor groups (Abel-Smith, 1989; World Bank, 1994).

On the other hand, the demand for and cost of health services has been increasing inexorably due to a mix of influences - some inevitable, some avoidable. These cost-drivers include:

a) population growth and the changing demographics with additional demands placed on health services to cope with the needs of the growing elderly cohort;

b) the changed epidemiological profile with the predominance of chronic non-communicable diseases and trauma-related health conditions (violence and accidents) substantially replacing infectious and communicable diseases as the main causes of morbidity and mortality;

c) the need to find funds for keeping abreast of changing health technologies (medicines, equipment; medical procedures);

d) the persistence of inefficiencies in the allocation and use of health resources;

e) pressures to keep apace with improving compensation packages to health workers;

f) growing incomes and expectations of the population for more customer-oriented and modernized health service delivery norms.

At the household level, the capacity to finance health services has varied in view of sharp income differentials, poverty levels of about 15% of the population and private health insurance cover for about 14% of the population. The result was much inequity in access to and utilisation of health services and the entrenchment of a two- (perhaps three-) tiered health system given the contrasting levels of utilisation of public, private and overseas care by persons at different income levels (Abel-Smith, 1989; Cumper, 1992; World Bank, 1994; Gertler and Sturm, 1997; Theodore and La Foucade, 1998; van Doorslaer and Wagstaff, 1998).

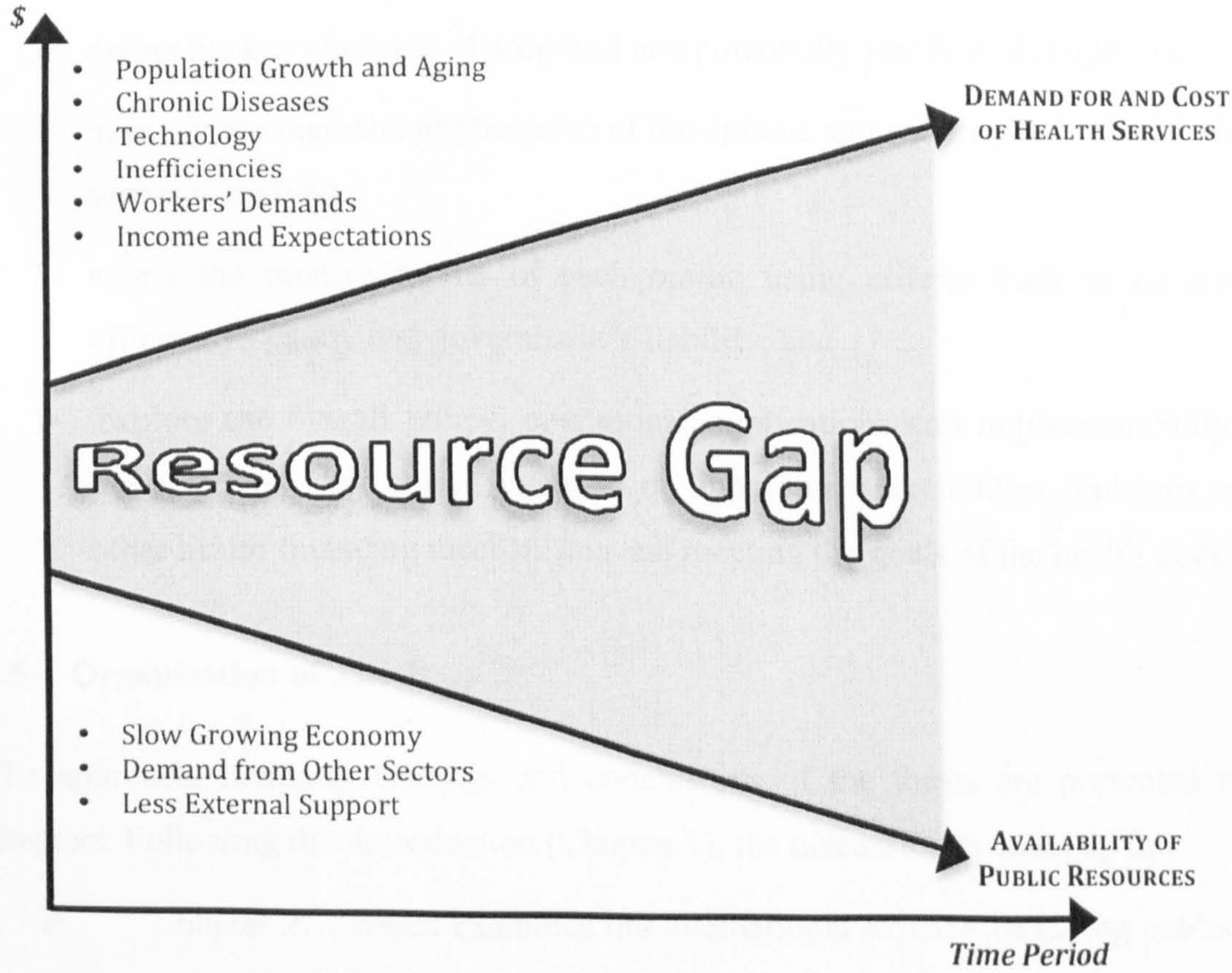
Figure 1.1 graphically summarises the health financing dilemma facing the State. Shortages of staff and supplies, delayed maintenance, long waiting times and general frustration of health workers and patients were cited among the principal effects of resource shortfalls in the public health sector (Abel-Smith, 1989; Cumper, 1992 and 1993; World Bank, 1994). The increasing gap between resource availability and resource needs made adequate health financing a critical factor if health gains were to be sustained.

Policy makers accepted that the growing health financing imbalance was unsustainable and that muddling through with minor changes would not bring system-wide

improvements. They debated whether financing alternatives should supplement or reduce public funds to health. However, all recognized the need for a better health financing system which could bring adequate resources, was equitable, sustainable and could provide increased health security at the household and national levels. Among the options recommended (not necessarily in isolation) in various consultancy studies in the 1980's and 1990's were:

- increased taxes or reallocations from the public budget;
- expanded user fee programme;
- efficiency savings;
- more private health insurance;
- financing from a national lottery programme;
- health savings accounts linked to pension plans;
- increased aid and charitable donations;
- a compulsory NHI programme.

Figure 1.1 The Health Financing Dilemma in the Public Sector



Source: Author's representation.

With the exception of NHI and to a lesser extent, user fees, most of the other options were considered by policymakers as either inadequate, uncertain or unacceptable

(Ogle Committee, 1988; Abel-Smith, 1989; World Bank, 1994; Green Paper, 1997). In the case of NHI, despite various studies, proposals and policy announcements since the 1960's, by 1997, it remained a desired choice but elusive, unlaunched mechanism to address the country's current and projected health financing dilemma.

1.4 Goal and Objectives of Study

The overall goal of the study is, through NHI in Jamaica, to explore, ex ante, the policy challenges, options, financial implications and socio-economic concerns that emanate from attempting radical changes in the mix of health financing mechanisms in a country. The approach is to examine the structural and operational factors necessitating changes in the existing financing system and to assess NHI options drawing on international best practices as well as on local dictates and recommendations.

The specific objectives, with respect to Jamaica, are to:

- delineate the factors influencing the policy drive for an NHI programme;
- define the key elements of proposed and potentially feasible NHI options;
- quantify the financial implications of the options and test their robustness using scenario analyses;
- assess the relative merits of each option using criteria such as coverage, efficiency, equity and government's liability; and
- explore the overall policy, operational implications and implementability of the preferred NHI option in terms of impact on stakeholders, linkages with other health financing mechanisms and meeting the goals of the health system.

1.5 Organisation of Thesis

The approach, methods, findings and conclusions of the thesis are presented in 8 chapters. Following this Introduction (Chapter 1), the discussion is taken up in:

- Chapter 2... which examines the international experience (using published materials) with health financing systems and NHI to elicit theoretical perspectives and lessons learnt from implementation. It identifies the key factors and components in designing NHI, reviews performance in ICs and DCs and outlines implications for its adoption in Jamaica. It also highlights

some of the key issues pertaining to the applicability of stakeholder analysis as a tool to assist in designing an NHI programme.

- Chapter 3... which provides information on the objectives and methodology of the study. It presents the conceptual framework for the research, the data collection methods and analyses—quantitative and qualitative, financial modelling and stakeholder analysis—and the derivation of the NHI prototype as one of the design options. In addition, it comments on the quality of the data and the likely influences of the results of the study.

- Chapter 4... which provides a situation analysis of the demographic, epidemiological, macroeconomic, health financing factors and policy process in Jamaica. In addition, it identifies the broad pathways through which key contextual factors are likely to have influenced the specific NHI design options.

- Chapter 5... which traces the development of NHI as a major public policy issue and outlines the key features of and responses to proposals by the Government for an NHI. In particular, it consolidates the government's 1997 proposals and findings on NHI recommendations from key stakeholders into specific design options for evaluation.

- Chapter 6... which focuses on financial modelling of the 3 design options. It specifies the range and magnitudes of the variables affecting inflows and outflows, the assumptions made, scenarios explored and results of sensitivity analyses.

- Chapter 7... which examines to what extent the NHI design options measure up to the evaluative criteria of coverage, risk pooling, net revenue generation; equity; efficiency and contribution requirements by workers and the government. It also points out what seems to be emerging as a preferred NHI option for Jamaica and the extent to which this is consistent with emerging best practice internationally.

- Chapter 8... which reflects on the overall methodology and findings and reviews the feasibility of the preferred option in relation to the range of preconditions and facilitating factors outlined in the literature. In addition, it indicates some of the limitations of the study and discusses the role of

key stakeholders in influencing the pattern and pace of health financing policy change.

- Chapter 9... which presents the overall conclusions of the study and indicates the areas where the study has made an incremental addition to knowledge of health financing systems as well as aspects which could benefit from continuing research.

1.6 Significance of Study

The study has both intrinsic and practical significance. In relation to transferability of health financing models, it can advance the conceptual and empirical knowledge base on the type, range and intensity of issues encountered in approaching the design of universal NHI systems in different socioeconomic and health settings. In this regard, policy recommendations by researchers, funding institutions or other groups for health financing through NHI in low income or middle income DCs may be seen more as starting points for rigorous analysis and assessment rather than prescriptions for implementation because of its purported conceptual advantages and performance in ICs and other DCs.

It can point out or reaffirm the most robust and the most sensitive variables in terms of the approach to NHI systems and can suggest a mix of evaluative criteria and indicators to assess the viability of NHI systems in the design stage. The significance of an ex ante evaluation framework may be gauged from the relatively limited attention it has received compared to the greater preponderance in the literature on ex post analyses.

It can provide valuable additional information for policymakers in Jamaica and other small developing countries on the ideological, institutional, stakeholder and financial aspects of NHI, the challenges of accommodating NHI in a formerly tax-funded system and on integrating NHI with other financing mechanisms to enhance universal coverage and health security for all. In addition it can re-emphasise that NHI and 'getting the financing right' are not just narrow issues of more money for health but also of macrosocial equity and macroeconomic balance.

Finally, it can highlight that, despite or in addition to sound technical and financial design, there are other crucial socio-economic factors influencing the confidence of policymakers and stakeholders in NHI. High among these factors are the underlying

macroeconomic conditions, real or perceived concerns over other simultaneous reforms and policies and the capacity of public sector agencies to manage the membership, collection of contributions, payments to providers, and overall, access to what many deem as a critical personal good - one's health. This confidence factor assumes greater prominence in a socio-economic environment where social solidarity has diminished in relation to individualism and personal choice, informal sector activities thrive, private health providers effectively compete with public providers, the historical performance of public agencies has been less than exemplary and key stakeholders have strong positions on all the above.

CHAPTER 2: LITERATURE REVIEW

2.1 Key Areas to be Examined and Review Sources

Compulsory contribution-based health insurance programmes with NHI-type features, whether completely or incompletely universal, have a chequered history of implementation among ICs and DCs. Some countries, with programmes spanning several decades, have persisted and have reformed their programmes at various times such as Germany, Netherlands, Israel, France, Japan, South Korea, Costa Rica; a few middle income countries have embarked on major reforms such as Mexico, Colombia, and Argentina. Other countries have recently commenced implementation (i.e., within the 2 decades) e.g., Viet Nam and some formerly socialist countries in Eastern Europe such as Moldova, Slovenia and Kyrgyzstan while some countries are still contemplating full implementation e.g., South Africa, Nigeria and Kenya.

On the other hand, there are some countries which discarded their established programmes for other types of financing mechanisms that rely more heavily on general taxes such as Italy, Spain and Portugal. Brazil recently joined this group in the early 1990's (Savedoff, 2003).

Several international and bilateral organizations, through technical and financial support activities, have played key roles in seeking to assist middle and low income countries to improve the functioning of their health systems and have included recommendations, implicitly or explicitly, for the design and implementation of NHI-type programmes (World Bank, 1993; IDB, 1996; WHO, 1999; Preker and Carrin, 2004; GTZ, 2005; ILO, 2007).

Given this spectrum of action, this Chapter examines in more detail the international experience, both theoretical perspectives and empirical analyses, with NHI-type programmes funded largely through compulsory contributions to gain insights into its appeal, role, performance and policy concerns. It highlights key design features, facilitating and frustrating factors and implementation experiences with a view to identifying some of the major design implications for adoption of NHI as a major health financing mechanism by Jamaica.

In addition, with the increasing levels of attention being placed on the crucial role of stakeholder involvement in the design and decision-making aspects of health policy

(Walt, 1994; Reich and Cooper, 1996; Gilson et al, 1999; Brugha and Varvasovszky, 2000; Mills, 2007), this Chapter also provides a brief review of the techniques of stakeholder analysis and political mapping and the extent to which they could be usefully applied in the development of and decisions on an NHI programme for Jamaica.

The discussion is organized around the following themes:

- the goals and expectations of an appropriate health financing system and the relative merits of NHI in such a system;
- key aspects of the theory of health insurance and the extent to which its positive features and dilemmas are transmitted to NHI;
- purported benefits, pre-conditions and major design features of NHI;
- performance of NHI systems in relation to the broad goals (expressed and/or implied) of national health systems and of health financing in IC's and DC's;
- the possibilities and limitations of stakeholder analysis as a tool to assist in NHI design;
- lessons and implications of international experience for NHI design in Jamaica.

In terms of the sources of data, the literature review covered materials generated through 2 main search strategies: scanning and selection of materials from relevant online databases and identification of books, reports and articles from traditional catalogues/index cards in libraries. Given the range of issues generated by the subject matter of the research (health reform, public policy, health financing, insurance, policymaking, social protection), the online (advanced) search used a number of key words, phrases and in some cases, authors. These included social health insurance; national health insurance; compulsory health insurance; public health insurance; national health service; provider payment methods; health financing policy; private health insurance; stakeholder analysis; political mapping; prepaid health plans; managed care; health management and policy; fiscal space and health financing reform. The search included general and subject specific databases and focused on published materials from 1980 to 2006.

The main online databases searched are listed as follows.

- HealthSTAR: produced by National Library of Medicine (NLM) and American Hospital Association and containing citations and abstracts of journal articles,

monographs, technical reports, meeting abstracts, papers, books/chapters, government documents from 1975. This subject specialist database provided specific materials on health services, administration, health insurance; health policy; health economics and financial management.

- Global Health: published by CABI and having international coverage of journal articles, conference proceedings, grey literature on all aspects of international public health from 1910 such as health policy and planning, community health, health economics, social medicine, public health practice and epidemiology.
- LILACS: published by the Latin American and Caribbean Center for Health Sciences Information and containing journal articles, books, theses, technical and scientific reports (mostly bibliographic but some full-text) from 1982 on most aspects of health and health sciences.
- MEDLINE: produced by NLM and containing a bibliographic database of mainly journal articles on medicine, health and allied fields from 1950.
- EMBASE: the Excerpta Medica database with strong coverage of European material and containing biomedical and health policy literature from 1947.
- POPLINE: produced by NLM, National Institutes of Health, Johns Hopkins University and containing abstracts of scientific articles, reports, books and unpublished information on population, family planning and related health.
- British Medical Journal database: produced by the British Medical Association with a range of biomedical and health related articles from 1966.
- LSHTM database: produced by the London School of Hygiene and Tropical Medicine with a wide range of materials, theses and publications on public health, health management and policy, social sciences and economics.
- MEDCARIBE: produced by Caribbean Net and the Medical Library of the University of the West Indies with books, journals, theses, technical and scientific reports (mostly bibliographic references and some full text materials) on health sciences in the Caribbean.

In addition, other helpful materials including some from 2007 and 2008 came from regular scanning and downloads of materials from the online databases of the World Bank, World Health Organisation, Inter-American Development Bank and Pan American Health Organisation.

The second search strategy involved identification and selection of materials from standard catalogues and index cards as well as abstracts from the Social Science Citation index (Social SCISEARCH) in 3 libraries. The bulk of the materials were sourced from the library at the LSHTM; other helpful materials were secured from the libraries of the London School of Economics and Political Science (London) and the University of the West Indies in Jamaica. In addition to information in the books, journal articles, reports and other commentaries generated in this search, their bibliographies provided clues to additional relevant material. The 'snowballing' effect of using one reference to generate several other references was a key strategy adopted in the overall literature review.

2.2 Goals of Health Financing and Relative Merits of NHI

Health system goals emphasise improving levels and distribution of health, attaining equity in access and financing, securing efficiency (macroeconomic and microeconomic) in the allocation and use of resources; enhancing consumer choice and protecting members from catastrophic losses arising from health spending (OECD, 1992; Normand, 1999; WHO, 2000; ILO, 2007; Gilson et al., 2007). The relative significance of these goals vary across time and countries and health financing mechanisms are expected to be sufficiently dynamic to respond to these changes in meeting the overall goals of the health system (Cumper, 1993; Fuchs, 1993; Chernichovsky et al., 2003; Wagstaff, 2007, McIntyre and Mooney, 2007). Health financing contributes to achievement of these goals through the key functions of revenue generation and collection, pooling of persons and funds and purchasing of appropriate health services (Mills, 1983; WHO, 1999; Preker and Carrin, 2004; Goffret and Schieber, 2006; Kutzin, 2007). As such, the choice of health financing mechanisms determines more than just the level of resources generated. It also influences the institutional arrangements for collecting and managing funds, organisational pattern for delivering health services, the quantity and quality of care provided, the way in which scarce resources are utilized and ultimately, the general level of health in society. In addition, the choice of a health financing system has implications for broader macroeconomic and macrosocial progress in a country (IDB, 1996; WHO, 2001; ILO/GTZ/WHO, 2007).

Health financing policies and operational arrangements to achieve these health goals involve decisions on a spectrum of activities from payment to utilization. More

specifically, these decisions relate to who pays, what types and mix of mechanisms are used to secure financing; who pools and manages the funds; what are the provider payment mechanisms; who provides the services; what services are bought and who benefits. The interface and linkages among these activities and actors are shown in Figure 2.1.

i) Who Pays

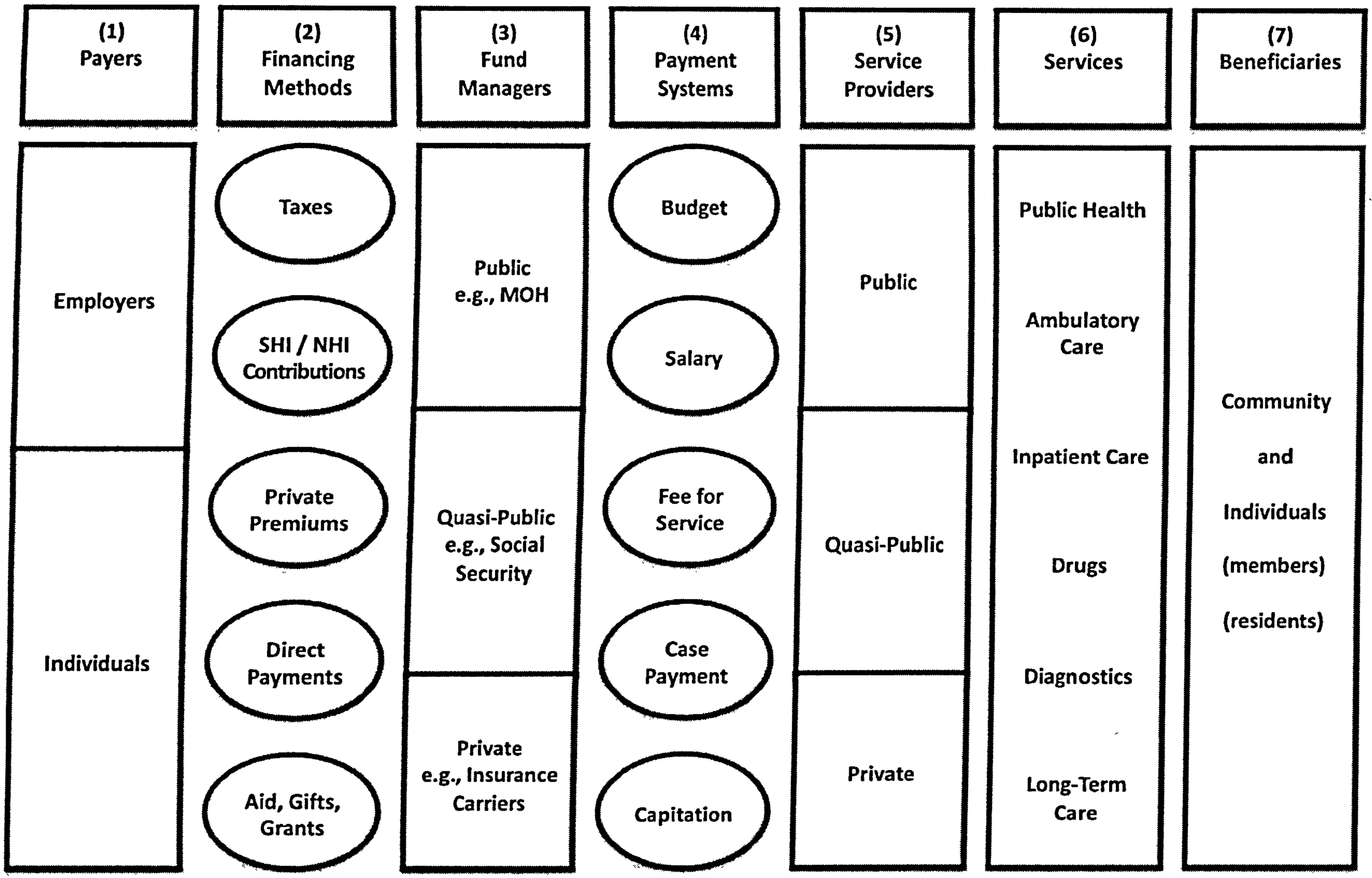
Whatever the health financing mechanism, the required funds come from the pockets of the general public as householders-income earners and from business entities-employers. The overall level of per capita income and the sharing of the financing burden between households and employers (and different groups within each) have implications for the adequacy of resources and equity in health financing i.e. whether payments-contribution are made in relation to ability to pay or some other criteria (WHO, 2000; Preker and Carrin, 2004; Gilson et al., 2007; McIntyre and Mooney, 2007).

ii) Types of Financing Mechanisms

All countries employ a mix of financing mechanisms though the composition and balance varies. Empirically, using national health accounts data (WHO, 2000; Carrin et al., 2004; Wagstaff, 2007; Mills, 2007), one can identify a dominant mechanism either resulting from expressed policy design or from the observed pattern of health spending in a country. In most ICs - with the exception of the US and Switzerland where private insurance is dominant - there is greater dependence on public financing sources such as taxes e.g., in England, Canada and Sweden or compulsory social insurance deductions e.g., Germany, France and Japan. Private insurance and out of pocket payments have relatively minor roles in these countries. (Glaser, 1991; Roemer, 1993; World Bank, 1993; WHO, 2000; Gottret and Schieber, 2006).

In DCs there is greater diversity in the mix of financing mechanisms and in the extent to which there is an observed dominant mechanism. Public financing through taxes are dominant in some countries; in others, it is social health insurance; in some, direct payments and in a few aid, grants and gifts. Additionally, there are varying levels of financing through private insurance and community insurance schemes (World Bank, 1993; Bennett, Creese and Monash, 1998; WHO, 2000; Arhin, 2001; Gottret and Schieber, 2006; Mills, 2007).

Figure 2.1 The Actors and Mechanisms in a Health Financing System



Source: Adapted from Kutzin, 1995

As dominant financing mechanisms, the level of taxes and social insurance deductions have implications for overall public sector financing and expenditure balances; fiscal space, incentives to business firms and workers; cost control and varied responses from groups of residents in their roles as payers and beneficiaries (World Bank, 1993; Reich, 1994; WHO, 2001; Docteur and Oxley, 2003; Heller, 2005).

iii) Management of Funds

The source of financing influences the choice of agencies to manage the funds. Tax funds are generally managed by public agencies such as a Ministry/Department of Health e.g., UK; premiums and private insurance payments by private for profit or non-profit companies e.g., US; community health plans by local community agencies e.g., Burundi; Ghana, India and compulsory social insurance deductions by a single agency e.g., Taiwan, Costa Rica or multiple (competing and/or non-competing) pooling agencies e.g., Germany, Netherlands, Japan, and Colombia. Funds generated through aid, grants and gifts are handled by a mix of international, bilateral and private donor organizations and are managed in recipient countries by Ministries of Health or other public organizations, private agencies or sometimes directly by arms of the donor organizations.

iv) Provider Payment Mechanisms

The choice and mix of provider payment mechanisms (to health professionals and health facilities) such as salary, budgets, fee for services, case based payments, capitation have direct implications for the technical efficiency of service delivery (quantity and quality of services), the level of cost control and administrative complexity (Donaldson and Gerard, 1993; Liu, 1997; Barnum, Kutzin and Saxenian, 1997; WHO, 2000; Glied, 2008). Table 2.1 compares some of these key features of payment mechanisms as applied to health professionals and health facilities and their likely implications for the delivery of services, cost control and ease of administration. Generally, as pointed out by Bennett and Mills (1993), there are 3 aspects of the payment mechanism which administrators must get right: the mode and frequency of payment, the level of payment and the arrangements for reviews if one is to strike a sustainable balance between adequate returns to providers and cost control.

Table 2.1 Features of Provider Payment Mechanisms

Payment mechanism	Unit / mode of payment	Incentives for quantity of services	Incentives for quality of services	Cost control and efficiency	Administrative complexity
A. Health Professionals					
Salary	Per time period	None: reward not linked to effort	Limited	Some cost control but problems with non-salary payments	Much effort in setting and negotiating salary scales
Capitation	Per member or patients on list	Limited to just enough care to keep members	Limited	Yes: fixed payments	Some effort to negotiate rates
Fee for service	Per item or procedure	Encourages activity: reward linked to effort.	Reasonable	No: more activity, more earnings. Some induced demand and billing fraud	Effort needed to negotiate fees and monitor billing
B. Health Facilities					
Budget	Per time period and mix of staff and services	Limited: no extra payments to do more	Limited to quality guidelines	Good cost control	Some initial effort in fixing budget.
Per Diem	Per bed day of care – includes all services	Encourages activity: admissions and length of stay	Mixed: adequate care but some also unnecessary	Limited: more care for inpatients than outpatients	Effort needed to fix rates and monitor activity
Per Case Mix	Per episode of care e.g., diagnosis or case group	Encourages focus on high- cost, short-stay cases	Reasonable	Limited: cream skimming is common	Very complex to fix rates and monitor activity
Fee for service	Per item or procedure to patient	Encourages activity and procedures	Reasonable	Minimal	Effort needed to negotiate fees and monitor billing

Source: Compiled from data in Liu (1997); Barnum, Kutzin and Saxenian (1997); Saltman et.al (2004)

v) Providers of Services

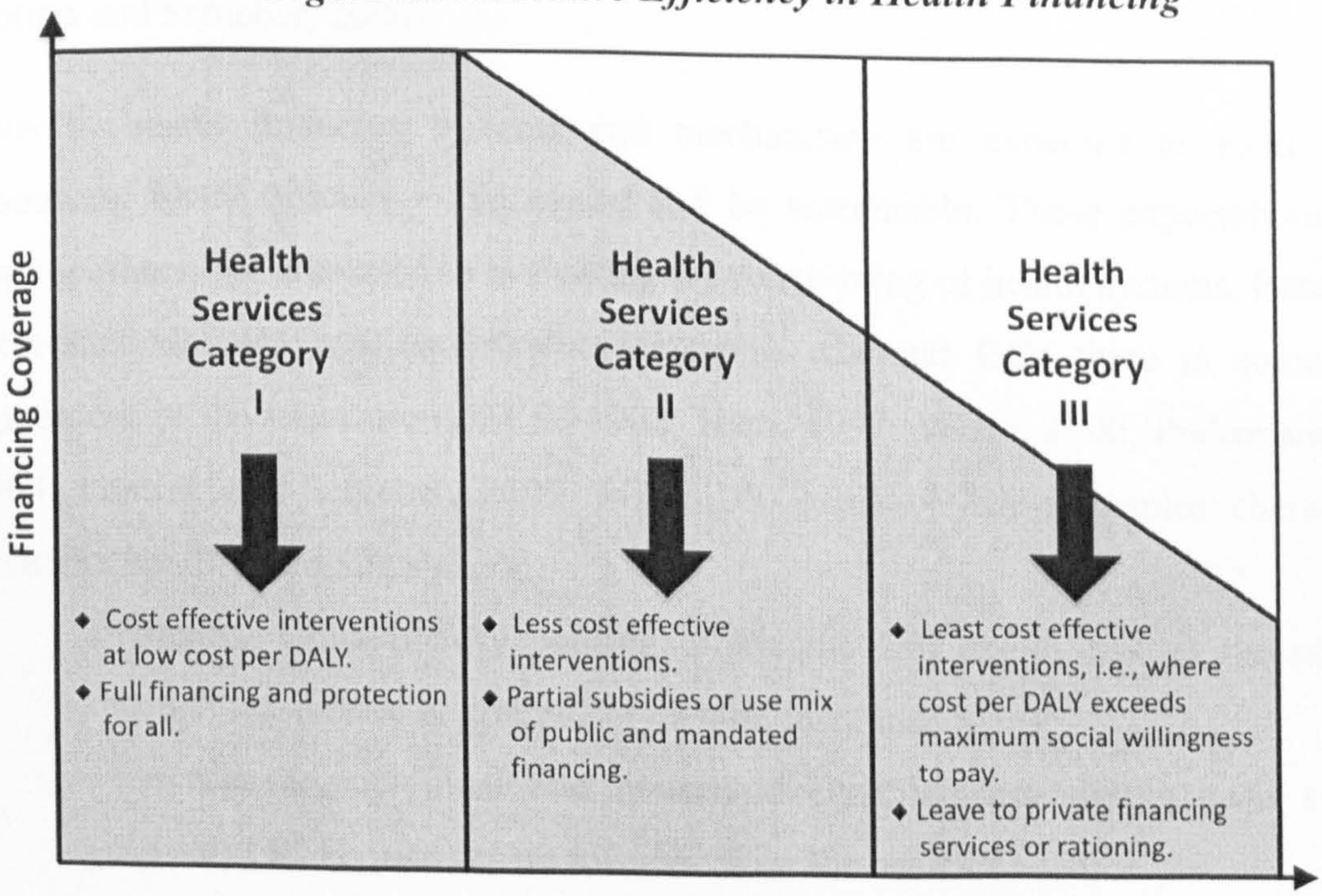
Service providers are identified by the type of ownership, and organizational and accountability arrangements i.e. public, private or quasi-public health facilities. (Individual health providers also fit into the above categories and are generally grouped according to the type of facilities in which they work). However, there are notable exceptions where private providers operate in public facilities and vice versa (sometimes referred to as 'private practice' or 'dual practice'). For all providers, the matter of choice

is important in terms of whether patients as consumers have free or restricted choice of providers and alternatively whether providers have the right to turn away some patients.

vi) Mix of Services

A substantial body of literature has been developed in recent years to draw attention to allocative efficiency in terms of what services to provide, to ration and to exclude from benefit packages (World Bank, 1993; Jamison et al., 1993; Musgrove, 1996; Bobadilla, 1996; Saltman and Figueras, 1997; WHO, 2000; Schreyogg et al., 2005). Issues of cost effectiveness, public versus private goods, rationing, and measures of outcomes such as QALY'S, DALY'S and HALES dominate this literature. As indicated in Figure 2.2, there is a common recognition that not all health services are equally effective or essential and that health spending may best be allocated using cost effectiveness principles (such as Cost per DALY). However, health financing is also expected to provide financial protection to members against catastrophic health expenses which may be incurred by the need for Category III services (WHO, 2000; Murray et al., 2003; ILO, 2007). In pure insurance terms, some have suggested that coverage of rare, low probability high cost catastrophic cases should be the primary role of health insurance rather than coverage of low cost, more predictable cases and expenses.

Figure 2.2 Allocative Efficiency in Health Financing



Source: Adapted from J.L. Bobadilla (1996)

Mills (2007) emphasizes that the definition of the benefit package is key in making universal coverage feasible and sustainable since no country could afford to include all technically available health services. While the majority of countries with or without NHI plans are struggling to define benefit packages, private health insurers have been doing so for decades. Appendix 2.1 lists the range of services usually covered and excluded in full package private health insurance plans.

vii) Who Benefits

This is determined by the extent of universal access and pooling of risks in the health system i.e. whether ability to pay out of pocket or membership in/contributions to a particular financing agency or rights of citizenship is the primary factor in determining who gets services. Musgrove (1996) suggests that for health services which can be classified as 'public goods' (with non-rival, non-excludable properties) this issue may not be problematic since it is expected that tax revenues will fund these services. However, for most personal care services access will be dependent on the type of financing mechanism(s) in place i.e., the extent to which there are income and health risk pooling systems such as taxes and compulsory or voluntary health insurance plans as against members having to rely on personal out of pocket funds for covering required health services (WHO, 2000; Preker and Carrin, 2004; McIntyre, Gilson and Mutyambizi, 2005; Gottret and Schieber, 2006).

Overall, health financing systems and mechanisms are expected to yield adequate resources, foster efficiency and equity and be sustainable. These expectations/criteria, among others, are also used in evaluating the functioning of health systems. Based on the theoretical debates and empirical evidence in ICs and DCs there is some general agreement in the literature (OECD, 1992; Ham, 1997; WHO, 2000; Preker and Carrin, 2004; Gottret and Schieber, 2006; Mills, 2007) that 4 key principles characterize a desirable health financing system:

Principle 1: mandatory pooling of income and health risk in the population through tax funded or compulsory health insurance plans;

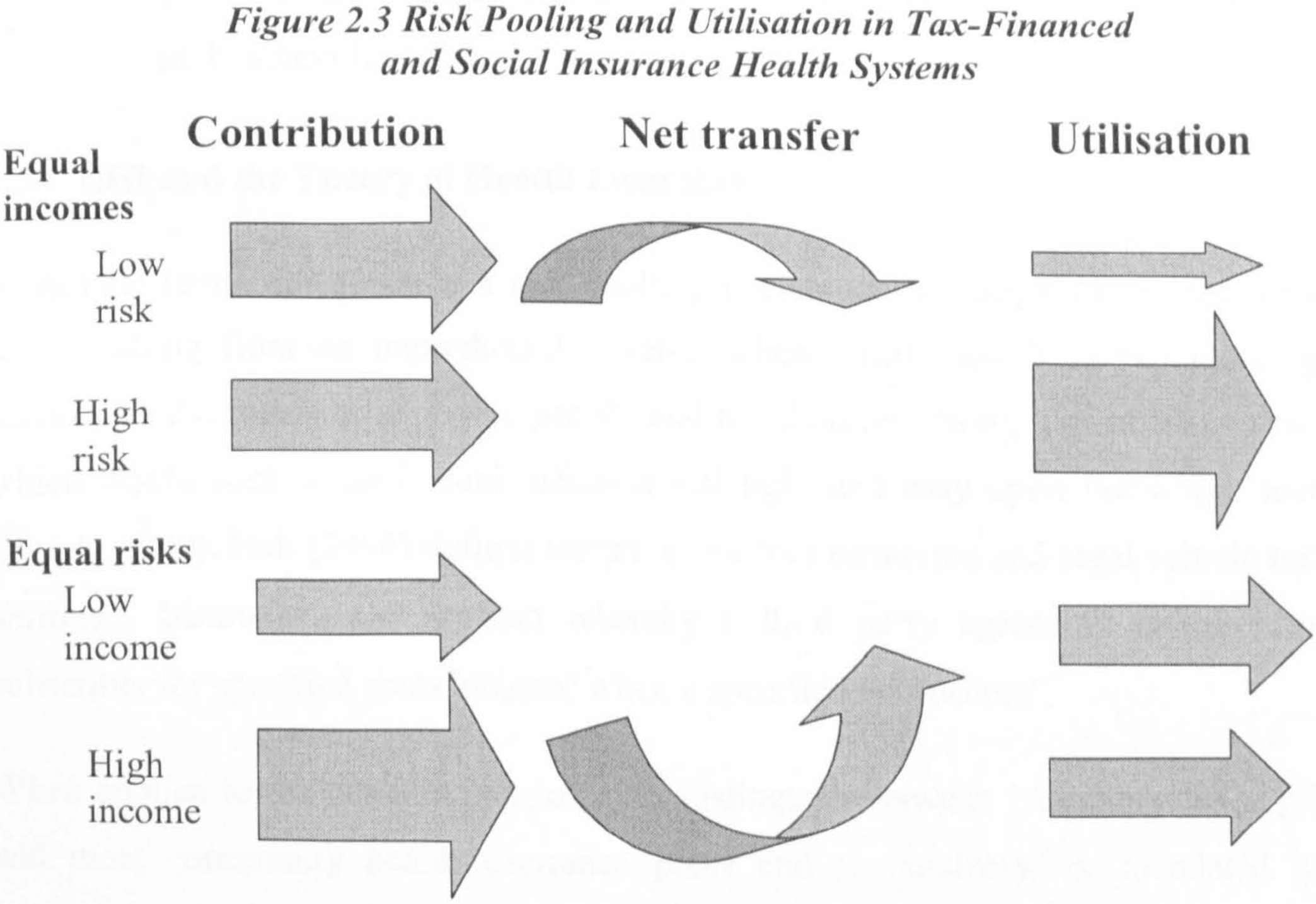
Principle 2: individual and household contributions on the basis of ability (capacity) to pay and access to services on the basis of need;

Principle 3: limited direct out of pocket payments (especially at time of utilization) to encourage access and avoid catastrophic payments and health-induced poverty;

Principle 4: purchasing plans based on health priorities and value for money along with remuneration systems that are prospective and performance related.

Figure 2.3 below shows the interaction among the first 3 principles: pooling of income and health risk; contributions based on ability to pay and access based on need; and limits on out of pocket/catastrophic payments. It depicts optimal pooling and cross subsidies or transfer. Firstly, on the contribution side, those with equal incomes but different health risk should make equal contributions. However, utilization levels will differ according to the level of health risk and need for care. Secondly, those with differing levels of income contribute according to ability while utilizing equal levels of services because their health risks are equal. The varying size of the arrows indicates the quantum of expected contribution and utilization of services.

Figure 2.3 Risk Pooling and Utilisation in Tax-Financed and Social Insurance Health Systems



Source: WHO, 2000.

Note: Varying size of arrow indicates the quantum of expected contribution and utilization of services.

The above discussion highlights the following aspects of health financing and NHI in relation to the achievement of health system goals:

- the need to generate adequate revenue to cover the cost of health services and administration. However, adequacy is relative and resources could easily become inadequate if the benefit package is not properly defined as well as if there is poor management and incorrect incentives;
- since no country relies exclusively on any single financing mechanism, there is need to manage a mix of mechanisms for better targeting of health services as public and private goods. Optimally, this involves the choice of a dominant financing mechanism such as tax-based or contribution-based system and selective use of supplementary mechanisms such as direct payments, aid and grants, and private health insurance;
- the design, choice and implementation of NHI as a dominant financing mechanism has implications for broader health and social goals such as equity, efficiency of resource use, control of inflation and possibly, competitiveness of business firms.

2.3 NHI and the Theory of Health Insurance

In general terms, insurance is a risk-pooling mechanism to mitigate expected financial loss resulting from an unpredictable event. Adam Smith saw it as providing "great security to the fortunes of private people and by dividing among a great many that loss which would ruin an individual makes it fall light and easy upon the whole society" (Borch, 1990). Hall (1994) defines insurance as "the economic and legal vehicle for risk shifting... Insurance is a contract whereby a third party agrees to compensate the subscriber for specified costs incurred when a specified loss occurs".

When applied to the health sector, one can distinguish between 'voluntary' as in private and most community health insurance plans and 'compulsory' or mandated health insurance. In terms of the latter, there is ongoing debate whether tax-based funds for health services which are compulsory and serve the insurance function of pooling risk and income can properly be called 'insurance' as against premiums in private insurance and compulsory contributions from earnings in social insurance (Glaser, 1991; Roemer, 1993;

Musgrove, 1996; Kutzin, 1998 and 2007; Normand, 1999). In this study, the definition of Soderlund and Khosa (1997) will be used in referring to health insurance as "all forms of subscription-funded (versus tax-funded) third party cover for health costs".

As shown in Table 2.2, Bennett and Mills (1993) developed a typology of health insurance schemes outlining the main types of insuring organizations (private non-profit, private for profit, employer-provided or self-insurance and public insurer) along with the characteristics of the insurance plans i.e. compulsory or voluntary, and within these, whether there are group or individual plans.

There are certain aspects of the general theory of insurance which heavily influence the design and practice of private as well as mandatory (national) health insurance. These include risk aversion and utility maximization; insurability of risks; market failure and information asymmetry.

Table 2.2 Typology of Health Insurance Schemes

INSURER	COMPULSORY	VOLUNTARY	
	INDIVIDUAL	INDIVIDUAL	GROUP
1. Private Non-Profit	• Social Security Funds (Sickness Funds) in Holland, Germany, Belgium, Switzerland		• Medical Aid Societies in Zimbabwe and South Africa • MASM in Malawi
2. Private for Profit		• Private carriers in Thailand • Top up private insurance in South Africa	• Medical aid society in Papua New Guinea
3. Employer-based (Self insurance)	• Mining Companies in South Africa	• Employer health plans	• Medical aid plans for public sector workers in several countries
4. Public	• Social Security in Thailand, Mexico, India, Pakistan	• Thailand Health Card	

Source: Bennett and Mills (1993).

a) Risk-aversion and Utility Maximisation:

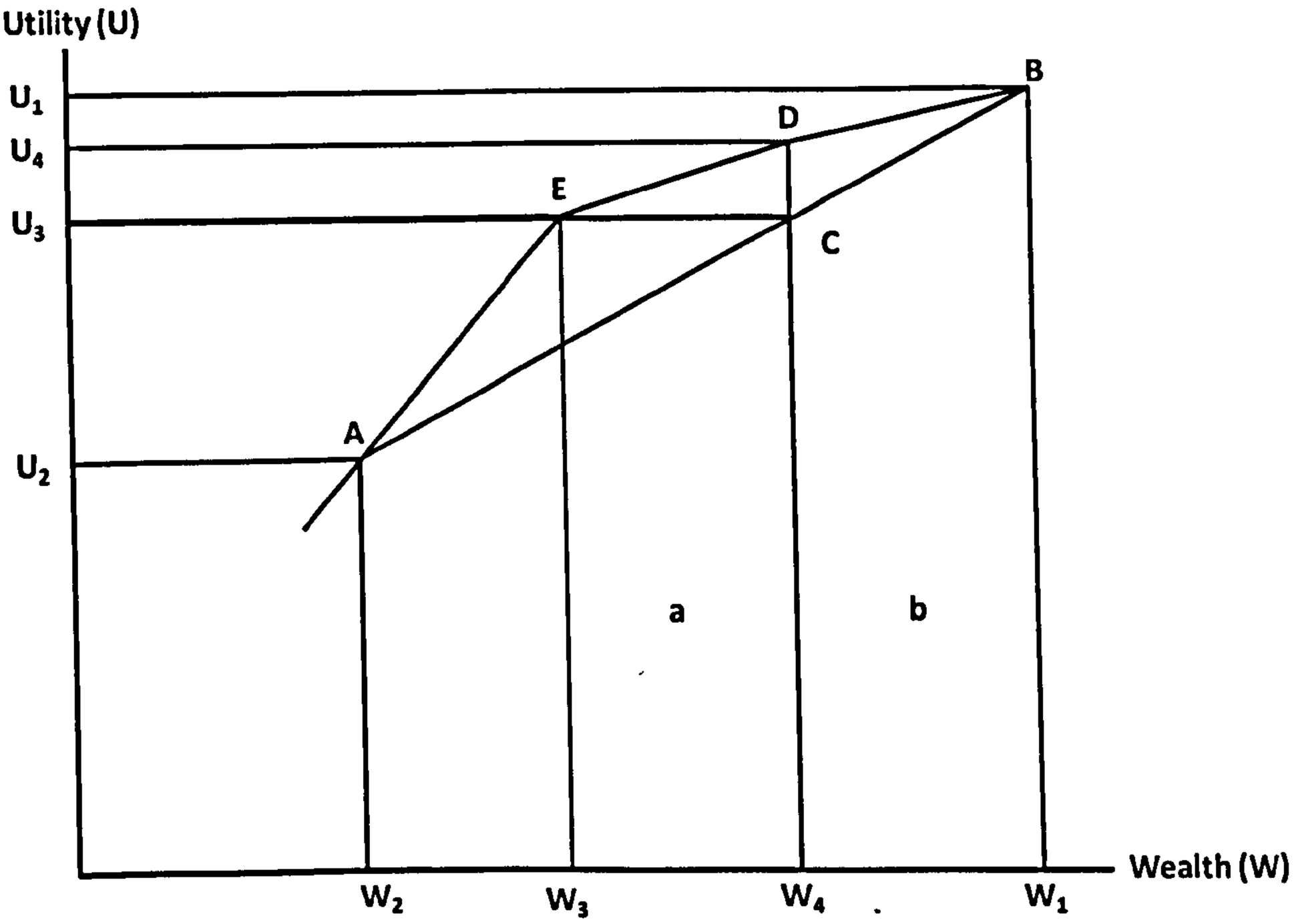
Faced with future financial uncertainties (when the "state of the world" is unknown) risk-averse individuals (as compared to risk-neutral and risk-loving persons) wishing to maximise expected utility and minimise loss of wealth may be quite willing to pay a fair

premium (i.e. equal to the expected loss or the probability of the loss multiplied by the value of the loss) to an insurer for protection against the risks. Paying a fair premium may mean a reduction in current wealth but if this is compensated by increased utility in the future state then the risk-averter (and society as a whole if many more persons behave similarly) will be better-off (Arrow, 1963; Mehr, Cammack and Rose, 1985; Dionne, 1992; Feldstein, 1993; Jacobs, 1996).

Figure 2.4 illustrates this risk aversion - utility maximisation behaviour and the role of the fair premium. The line AEDB shows the actual utility schedule for the rational risk-averse individual with assumed diminishing marginal utility while the straight line (ACB) shows expected utility for different probabilities that illness will occur. The individual's current wealth W_1 provides the level of utility U_1. The cost of illness could reduce his wealth to the point W_2 and utility to U_2. However, to insure against this probable loss (especially if it is 'catastrophic' rather than 'small'), he is willing to pay the maximum premium of a+b. This reduces his wealth to W_3 and his utility to U_3 but he is better off with insurance than without it although not as well off if he could exactly predict the risk of illness and pay the fair premium, b, which would have provided him with a higher level of wealth, W_4, and utility, U_4. Since it is inconceivable that all possible risks can be covered (given imperfect information of the future), the rational risk-averse individual will tend to purchase more insurance protection for events which are "low probability-high loss" rather than those of an opposite nature.

Several aspects of this theory of risk-averse behaviour are applicable to health. Health risks are ubiquitous and generally unpredictable whether one is speaking of diseases, accidents or invalidity. The determinant factors range from the physiological and behavioural to those which are more environmental and socio-economic (Arrow, 1963; Akin, 1989; Henke, 1992; Jacobs, 1996; Dunn et al., 1996; Chollet and Lewis, 1997). This leads to considerable uncertainty over the timing, nature and cost of illness (including outcomes of treatment). As such risk-averse individuals, especially income earners and heads of households, will seek health insurance as a rational choice.

Figure 2.4 Risk Aversion, Expected Utility and Health Insurance



Source: Adapted from Feldstein (1993)

Notes: b = fair premium; a+b = maximum premium

The demand for health insurance generally depends on the premium, self-assessment of the probability and magnitude of the loss, and the degree of risk aversion (Mills, 1983; Stone, 1993; Chollet and Lewis, 1997). At an individual level there are several other specific variables which are taken account in determining the type and amount of insurance bought such as income, occupational class, household size and the extent to which subsidised health services are available (Propper and Eastwood, 1989; Shaw and Ainsworth, 1996; Dunn et al., 1996). In addition, for many people, particular medical services and the ability to choose one's caregiver, increase utility levels (on top of risk aversion utility) so they may choose to purchase more insurance, perhaps at a higher premium than that predicted by the pure risk aversion theory. This may partially explain why some persons 'double insure' or buy 'custom-designed' insurance coverage.

In practice, this rational risk-averse behavioural model where health is treated as a consumption item yielding specific measurable individual benefits and the consequent

purchase of health insurance along a typical demand curve does not fully reflect the complexities of the health product. There are several, largely social, reasons for this:

- the asset in question, the human body, has intrinsic value and cannot be related solely to utilitarian considerations such as protection against income or employment losses. This has implications for a social as against purely individual role for health insurance (Donaldson and Gerard, 1993; Stone, 1993);

- health has dual properties as a consumption and investment (human capital) good (World Bank, 1993; Chollet, 1994; Grossman, 1999; Dror, 2000; WHO, 2001). The latter aspect makes the decision to purchase health insurance a concern for national as well as business development and hence contingent on other variables than those reflective of individual risk-aversion behaviour only;

- individual health has properties which also extend to the rest of the society i.e. positive and negative externalities. This implies that a health insurance market which responds to individual valuation of health risk and purchase of the necessary health insurance based on individual ability and willingness to pay may under-provide the level of socially necessary health insurance (Mills, 1983; Akin, 1989; World Bank, 1993; Dror, 2000; Chernichovsky et al., 2001).

Given this broader context of social benefits (utility), a strong case can be made for universal health insurance coverage (like NHI).

viii) Insurability of Risks:

Not all risks are insurable, can be pooled or will be covered by an insurer (at an affordable premium). Given current information, insurers do not generally cover risks which are certain to occur (within a defined time period) or eventualities already occurring ("burning houses"). Also, consumers generally do not insure for events which are certain not to occur nor do they seek cover for events which will have fairly negligible effects on their welfare (Arrow, 1963; Louberge, 1989; Dionne and Harrington, 1992; Feldstein, 1993; Chollet and Lewis, 1997). An insurable event/risk is one which:

- is catastrophic i.e. causes large, measurable losses (not easily contrived);
- affects a large number of people independently;

- is rare with a low probability of occurring;
- occurs randomly for each individual but is known for the population.

Certain health risks satisfy the conditions for insurability as outlined above. However there are many other health risks, perhaps the majority, which do not fit the above criteria. In fact, as, pointed out by La Forgia (1993), insurance companies and actuaries generally considered health insurance as an "oxymoron" and began to develop health insurance products much later as compared to the availability of other types of insurance e.g., life, shipping and property. The reasons for this can be found in the nature of many health risks and the health seeking behaviour of individuals:

- health risks are not always infrequent or unpredictable. Several are based on discretionary actions or omissions and others result from natural aging processes;
- not all illnesses occur randomly or are independent. Externalities and interdependence are significant aspects of health and illness;
- not all costs are high or catastrophic. Many are quite small and could easily be paid directly by the consumer.

While primarily designed as a risk-pooling mechanism enhancing access to care and financial protection against catastrophic and near catastrophic losses due to health (Zschock,1986; Stone, 1993; Murray et al., 2003), health insurance has grown to become more of a total health financing instrument covering all types of health services, some of which are highly probable or almost certain. This has far-reaching implications for the design of private and compulsory health insurance plans and, in particular, for the package of services covered, the reimbursement mechanism and the incentives for appropriate behaviour by consumers and providers (Evans, 1986; Barnum et al., 1997; Chollet and Lewis, 1997; Dror, 2000).

ix) The Insurance Market:

Using the Paretian definition, an efficient insurance market is one in which the distribution is such that no one can be made better off without making someone worse off (Rothschild and Stiglitz, 1976; Glied, 2008). The welfare of each buyer and seller will be maximised if certain market conditions are met. These are:

- there are many suppliers and buyers so none can influence the market in a particular direction;
- there are no obstacles to entry and exit;
- there is no price discrimination and the product being sold is homogeneous;
- there is perfect information so consumers are sovereign and can make rational choices;
- there are no externalities i.e., only those in the market can benefit or lose from transactions;
- the price (premium) clears the market and maximises the utility functions of both insurers and buyer i.e. it is adequate to cover the expected claims on the supplier plus its loading costs while still being fair to the consumer (Rothschild and Stiglitz, 1976; Borch, 1992; Feldstein, 1993; Jacobs, 1996).

However, the health insurance market (compared to the Paretian model and to other markets) is more generally characterised by incomplete and asymmetric information; lumpiness of investment so entry and exit are not easy; product differentiation, price discrimination and externalities (Arrow, 1963; Pauly, 1968; Rothschild and Stiglitz, 1976; Wilson, 1977: Chollet and Lewis, 1997). These have resulted in widespread market failure and disequilibria with the most common being adverse selection, moral hazard and over- and under-insurance and industry concentration.

a) Adverse Selection: This occurs when consumers know more about their health risks and expected expenses than the insurers. So pooling consumers without perfect knowledge of risks will lead to inefficient pricing. At this pooled or community price, more high risk persons find it attractive to come on board and as such the selection of customers is adverse to the insurer rather than random. This leads to frequent payments by the insurer, higher premia and smaller membership and eventually the collapse of the market since there is no price at which the insurer may break even. Alternatively the market will persist but there will be an unstable or no equilibrium (Rothschild and Stiglitz, 1976; Wilson, 1977; Stone, 1993).

In seeking to counteract adverse selection and to set a fair premium which relates individual risks and expected loss as close as possible, insurers have developed

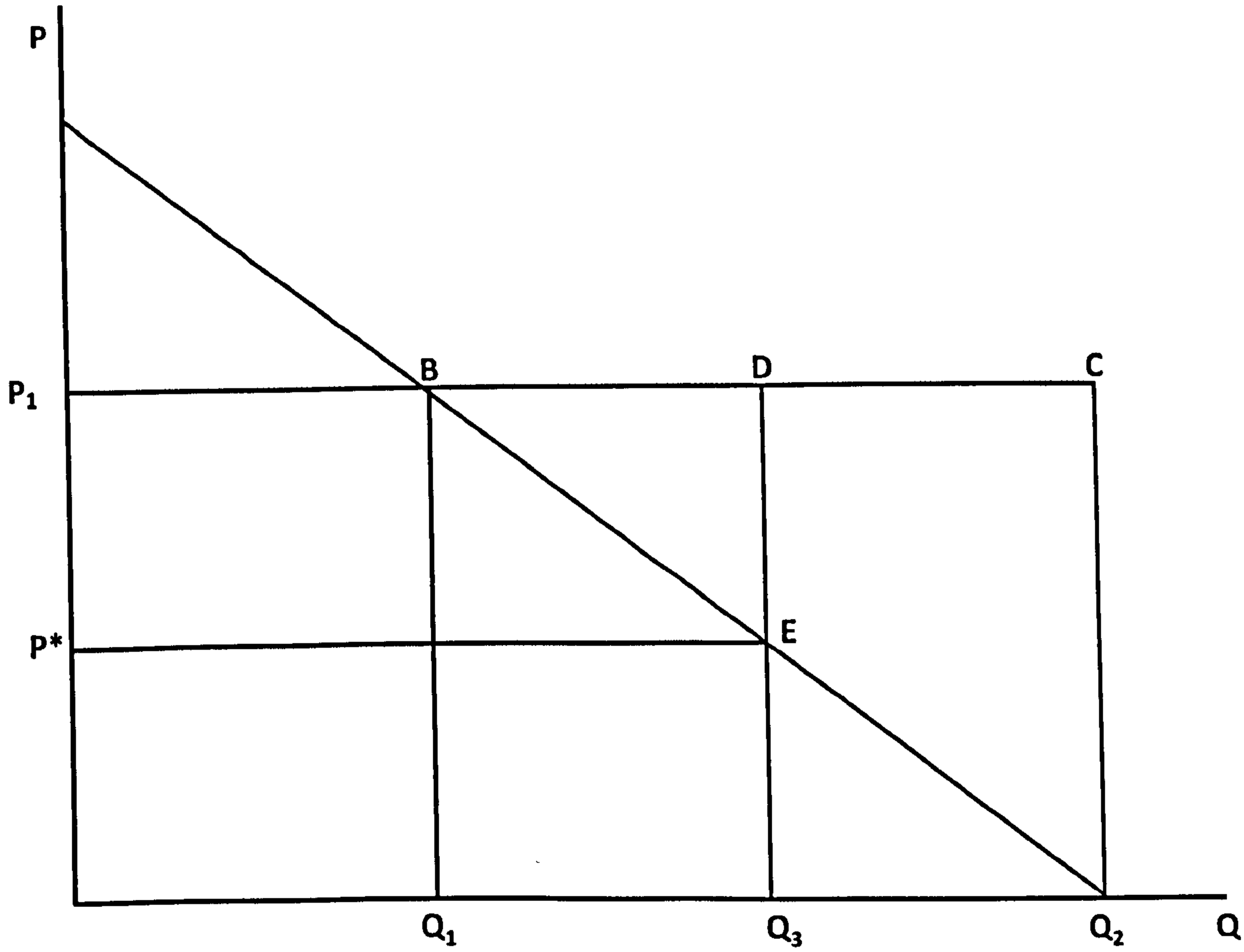
sophisticated rating and underwriting techniques based on risk signals and market segmentation. These are part of the experience rating systems used particularly by private insurers as compared to community rating used by social insurance organizations. The general objective of these techniques is to develop a risk profile of individuals and groups by including and rating any factor which can predict future health cost: age, sex, race, education, occupation, location of residence, lifestyle, current health status and medical history (Donaldson and Gerard, 1993; Stone, 1993; Dunn et.al.1996; Chollet and Lewis, 1997). This divides and stratifies the risk pool into varying levels of high and low risk (re: standard, preferred and sub-standard risk categories) with appropriate changes in the price or the benefit package or both. However, as van Vliet and van de Ven (1992) and van Barneveld (1997) pointed out, these techniques predict less than ten percent of the variations in health costs among individuals in any one year. The percentage of predicted variation is slightly higher if one is comparing groups (Hall, 1994; Dunn et al., 1996).

Insurers respond to adverse selection by:

- Cherry-picking or cream-skimming: in competitive markets this refers to the screening out of potentially high risk persons through risk assessments or through offering particular packages which only low risk persons would want to buy.
- Blacklisting i.e., systematic screening out and denial of cover to particular social or occupational groups.
- Other administrative techniques such as exclusions of certain categories of illnesses from cover, waiting periods before one can become eligible for benefits and insistence on total group cover in some occupations.

b) Moral Hazard: The tendency for individuals, once insured, to behave in a manner which increases the probability of the covered risk occurring or to consume significantly more services than would have occurred without insurance. Figure 2.5 shows the expected effects of moral hazard and of cost sharing arrangements to curb the problem. The point Q_1 is the socially optimal level of consumption where marginal cost equals marginal benefit (which is reflected in the demand curve). With full reimbursement insurance, consumption shifts to Q_2 giving a social welfare loss of BCQ_2. The implementation of a copayment at P* leads to a fall in consumption to Q_3 and a smaller social welfare loss of BDE (Folland, et al., 1993).

Figure 2.5 Health Insurance, Moral Hazard and Impact of Copayments



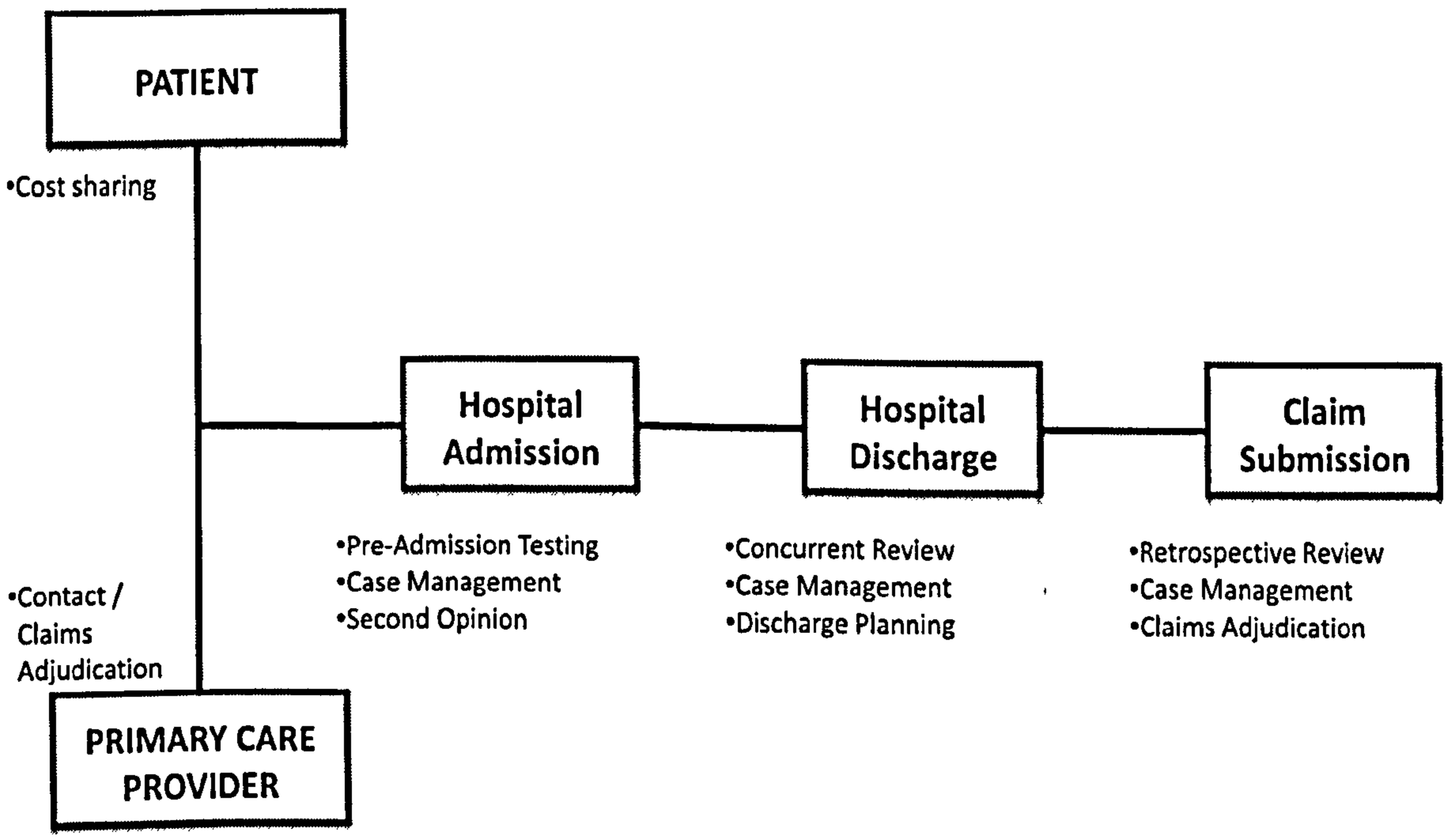
Notes: Q_1 = Quantity demanded without insurance; Q_2 = Quantity demanded with full cover insurance; Q_3 = Quantity demanded with copayment; Q_2-Q_1 = Extent of Moral Hazard; Q_2-Q_3 = Reduction in Demand due to Copayment. P = Price P* = Copayment implemented.

Source: Adapted from Folland, Goodman and Stano (1993)

Moral hazard has major implications for cost and utilisation management by the insurer. This is complicated by the actions of providers who, recognising that they do not have to bear the costs of their treatment decisions and that these costs are being met by a third-party and not the consumer, are more prone to overtreat and overprescribe. As such provider moral hazard becomes a major concern since with his unique skills he knows more about the health condition and treatment than the consumer. As such he can induce a higher level of demand (sometimes referred to as 'supplier-induced demand') higher than that which would have been registered by a fully-informed consumer (Borch, 1992; Fuchs, 1993; Donaldson and Gerard, 1993; Chollet and Lewis, 1997).

As the third-party intermediary, the insurer has to be a more 'active purchaser' (Mills and Bennett, 2001; WHO, 2000; Docteur and Oxley, 2003, Saltman, 2004) with various cost-sharing (such as coinsurance, deductibles and copayments), supply and utilisation management measures (such as benefit limits and restrictions on use of providers) to contain demand on the one hand and on the other, unnecessary treatments by the providers (such as prior authorisation for certain treatments, second opinions for elective surgery, concurrent reviews and strict claims adjudication). Figure 2.6 displays some of these techniques and their application along the various points in the utilization-payments spectrum starting at the primary care or first contact point in the delivery system.

Figure 2.6 Techniques of Managing Patient Utilization and Provider Behaviour



Source: Adapted from P. Jacobs, (1996)

Evans (1986) takes a different view on the utilisation deterrent argument by indicating that moral hazard has to be distinguished from the additional demand resulting from the reduction of financial barriers to care due to insurance coverage. He suggests that in the case of "health needs" and "externalities" some moral hazard may be justifiable.

c) Over- and Under-Insurance: In the absence of perfect information, the market may not appropriately match the real "needs" of consumers for insurance so that some may end up with more cover and higher costs than warranted while the opposite may occur for other persons. In health, over-insurance is more likely where insurance is subsidised. As

such, policies which make insurance payments fully tax deductible for employers and employees are more likely to result in less rigorous search for appropriate health plans (Folland et al., 1993; Hall, 1994; Steinmo and Watts, 1995; Docteur et al., 2003).

Underinsurance occurs because the existing health plans fail to match the needs of a consumer due to inadequate information on the part of the insurer or because the price of the plan is beyond a potential subscriber's ability to pay. For many, from a social point of view, may still represent a reasonable choice for many under private market conditions (Feldstein, 1993; Jacobs, 1996; Chollett and Lewis, 1997).

d) Monopolies and Industry Concentration in Insurance: Monopolies can develop in the health insurance industry through a deliberate policy decision to establish a single public company to provide all health insurance as in some NHI programmes (Frech, 1996). In private markets monopolies can also develop because the high entry and operational costs (i.e. the cost of establishment, gathering information, claims management etc.) may either discourage potential firms from entering the market or may cause difficulties for marginal firms thus leading to a series of mergers. In the case of the latter there will be a tendency for more concentration of firms leading to an oligopolistic market or the dominance of a particular firm e.g., with a controlling share of more than 60% of the market.

However, not all situations where a single insurer exists can be described as one of monopoly. Some markets may deliberately be based on a contestable rather than competitive model. Ex ante bidding among prospective firms to provide insurance cover for a particular population group may lead to a single firm winning the contract and serving as the sole carrier for a specified period.

The presence of a monopolistic provider of health insurance can have the following negative consequences (which may not have occurred in a more competitive market):

- more standardisation and less innovativeness in health plans with loss of consumer sovereignty and choice (Frech, 1996);
- use of price discrimination strategies with consumers as price takers leading to some segments of the market being more favoured or squeezed than others (Dionne and Harrington, 1992; Jacobs, 1996; Dror, 2000);

- the loss of competition could lead to administrative and other inefficiencies as well as excess profits in the monopoly firm (i.e. high loading costs) which are transmitted directly to subscribers through higher premiums. (Jacobs, 1996).

On the other hand, it can be argued that a monopolist insurer can benefit from administrative economies of scale in having a single pool of members and can exert greater influence over service providers by bringing more bargaining power to the table in order to secure the benefits and welfare of the consumer (Fuchs, 1993; Anderson and Hussey, 2004; Gottret and Schieber, 2006).

The persistence of the above market failures (despite efforts to regulate, control, offer incentives for efficiency etc.) has resulted in serious doubts over the ability of the private and unregulated health insurance market to provide optimal solutions for risk-sharing and financial protection (Rothschild and Stiglitz, 1976; Stone, 1993; Gottret and |Schieber 2006). These concerns are increased when issues of equity are considered (in relation to unmet health needs and the exclusion of many persons from the market through risk selection mechanisms) as well as the overall compatibility of the unregulated health insurance market (led by the "invisible hand") with the health objectives of a country.

Some of these concerns can be addressed in compulsory contributions systems such as NHI programmes which are based on "social solidarity" and "collective equivalence" (Glaser, 1991; Henke, 1992; WHO, 2000; ILO, 2007) and which are not just "upscaling" of private health insurance products. However, it should be noted that, an NHI programme is essentially another mechanism for insurance, pooling of risks and financial protection and is not immune from all the challenges, shortcomings and failures that characterize private health insurance markets. Their ability to cope with and circumvent insurance and related market failures depends to a large extent on the design of the programme. This is examined below.

2.4 NHI: Benefits, Preconditions, and Key Design Features

a) Expected Benefits of NHI

As a health financing mechanism drawing heavily on the principles of social insurance, NHI has more of the features associated with social solidarity rather than private insurance markets and actuarial fairness. At the individual and household level, it is seen as a primary source of health security and financial protection enabling access to necessary care . At the national level it is a major source of health funds to pay providers and to contribute to the goals of the health sector i.e.,

- mobilising adequate funds for services to meet health needs and demands;
- allocating funds and organising the delivery of services efficiently and effectively;
- ensuring universal and equitable access to health services.

In examining the expected benefits and design of NHI programmes, the dual functions in terms of meeting individual and national objectives must be borne in mind if it is to be acceptable. The tendency to focus exclusively or disproportionately on national objectives and implications while ignoring its role in satisfying the objectives of the individual is an important aspect of ongoing reforms to ensure greater choice, responsiveness and efficiency in NHI programmes (Docteur and Oxley, 2003; Saltman, 2004; Gottret and Schieber, 2006; Mills, 2007). .

Various analysts have pointed to the following potential benefits of contribution-based as compared to other health financing mechanisms (Ron et al., 1990; Glaser, 1991; Abel-Smith, 1992; Normand and Weber, 1994; Normand, 2001; Saltman, 2004):

- it is a stable source of financing with funds dedicated to health services;
- it can pay for the full cost of health services;
- it enhances equity by combining risk-pooling with mutual support thus reducing adverse selection and redistributing benefits and costs "from each according to his ability to each according to his needs". Those contributing more than they benefit by utilising health services are the high wage earners, single persons, small

families and the young while those receiving more benefits than they contribute are low wage earners, the disabled/invalid, large families and the old;

- it is an earned benefit and establishes the rights of the individual as a member with entitlements rather than just a recipient of a welfare benefit;
- it provides more bargaining power to the purchaser in negotiations with providers;
- it can be used more effectively to contain costs than private health insurance;
- it can build on existing Social Security arrangements;
- it can co-exist and blend with other health financing mechanisms.

Securing these benefits in an NHI plan is not automatic. It depends largely on the extent to which certain pre-conditions are realized, the particular design chosen, administrative efficiency and facilitating environmental factors (Normand, 2001; Gottret and Schieber, 2006; Wagstaff, 2007; Kwon, 2007).

x) Pre-conditions and Facilitating Factors

Drawing on lessons of experience, various analysts have suggested certain key pre-conditions and factors which facilitate the development and sustainability of SHI, and by extension, NHI-type programmes (Normand and Weber, 1994; Shaw and Ainsworth, 1996; Kutzin, 1997; Ensor, 1999; Barnighausen and Sauerborn, 2002). These include:

- general macroeconomic growth sustained over long periods;
- high labour force participation rate with substantially more persons employed in the formal wage-earning sectors than in the self-employed and informal sectors;
- reasonably acceptable burden of taxes and other statutory deductions;
- efficient collection system and enforceable arrangements to deter non-compliance;
- general confidence in the competence and integrity of pooling agencies;
- effective mechanisms to target the poor and other vulnerable social groups;
- acceptability and confidence in the availability and quality of health services;
- a system of user fees and co-payments to deter free riders and moral hazard;
- general support of key stakeholders;
- supportive legislative framework.

The above pre-conditions are generally satisfied in ICs and some middle income DCs. However, there have been and are major reservations about the presence and sustainability of these pre-conditions in most DCs. Shaw and Ainsworth (1993) and Ensor

(1999) developed a set of quantitative indicators based on some of these pre-conditions to assess and rank a number of low and middle income DCs in terms of the theoretical feasibility of establishing compulsory insurance like SHI and NHI (notwithstanding the fact that several DCs in their assessment already had or had plans for such programmes).

Their analyses considered factors relating to the supply of insurance (such as population density; urban density; formal sector labour force and aid flows to the health sector) and demand for insurance (such as per capita income; private spending on health; availability of health services). Based on the evaluation, Ensor (1999) developed a ranking which showed that only 5 of 81 countries (Trinidad and Tobago, South Korea, Mexico, Belarus and Estonia) attained scores that suggest general feasibility; 13 showed some positive features and scores suggesting some scope while the majority of low and middle income countries (including Jamaica) were scattered along the spectrum of some to extreme difficulties in establishing compulsory health insurance programmes.

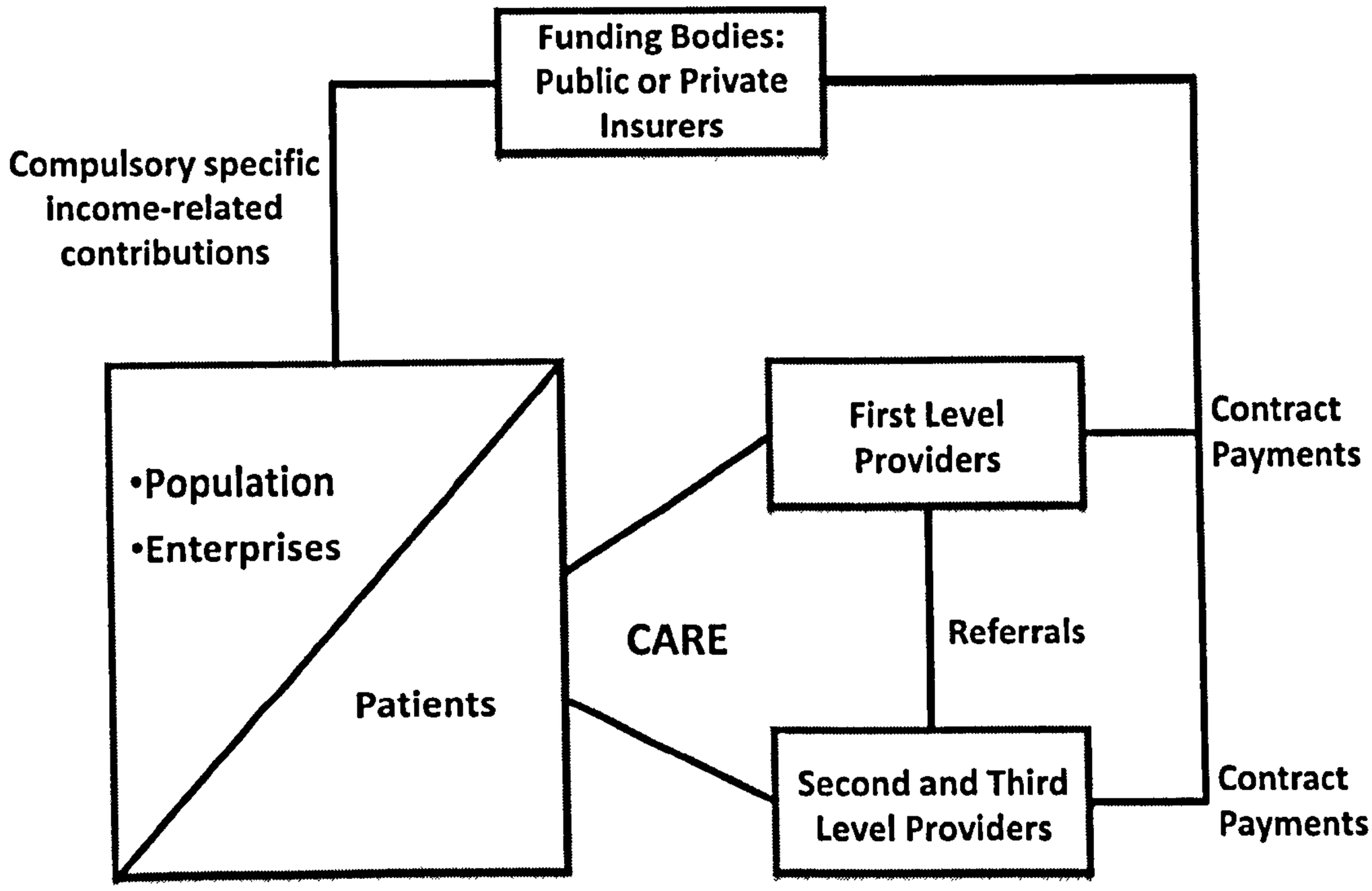
xi) Issues In Designing NHI-type Programmes

The OECD's (1992) outline of the Public Contract Model of a health system (Figure 2.7) provides a broad framework for conceptualizing and examining the design of a compulsory health insurance programme like NHI. It shows compulsory income-related contributions being made by enterprises and the population to pooling-funding agencies (i.e. public or private insurers) which contract with health providers for the supply of services to beneficiaries. Copayments may or may not be featured in these contracts.

In reviewing the international literature, it would appear that, apart from having compulsory contributions (through payroll deductions or other income-based charges) as the main source of finance, there are significant differences among countries in terms of the design and functioning of their NHI-type systems. These differences lead to a broad typology with the following characteristics and country examples:

- Universal (National) Coverage, single pooling agency, complete: Taiwan, Costa Rica, South Korea;
- Universal coverage, single-pooling, incomplete: VietNam, Phillipines, Moldova;
- Universal coverage, multiple pools, complete: Germany, Japan, Belgium;
- Universal coverage, multiple pools, incomplete: Colombia, Uruguay, Argentina.

Figure 2.7 Public Contract Model in Health



Source: Adapted from OECD (1992)

The case of Singapore is interesting since its basic Medical Savings Account Plan (Medisave) is compulsory and national in coverage but it is not a pooled arrangement. On the other hand its catastrophic care coverage plan (Medishield) which uses a percentage of the contributions from the Medisave programme is compulsory and pools the population. As such it can be seen as a NHI-type mechanism for a limited package of benefits (Hsiao, 1995; Ministry of Health, 1997; Phua, 1997; Asher and Nandy, 2006).

Based on the particular forms observed among IC's and DC's (reflecting their specific needs, vision, objectives and capabilities) and on the theoretical underpinnings of NHI, it would appear that there are 9 key components (each with associated policy options) which need to be considered in the design and development of NHI-type programmes (Ron et al., 1990; Normand and Weber, 1994; Normand, 2001; Carrin and James, 2004; Gottret and Schieber, 2006; Mills, 2007).

a) Conceptual Framework and Policy Goals:

Definition of policy goals such as universal coverage, equitable financing and access to care, additional revenue; dominant or supplementary financing mechanism; role of duplicate or coordinated benefits and payments in private insurance plans.

b) Administrative Arrangements:

Administration through a single statutory fund or several competing or non-competing funds; organization of funds by industry, region, occupational groups or on an open enrollment basis; penalties for excluding prospective members; establishment of a central governing body to collect contributions and distribute among the competing funds - based on contracts or open choice by members - according to the risk profile of their membership, to regulate and monitor these funds and to manage risk equalization arrangements; specification of rules for e.g. competition at the front end among insurers/competing funds in terms of deciding on the package and contributions, as well as at the provider end in terms of negotiating separate contracts and payments plans with health providers or competition for the former only or the latter; relationship (degree of autonomy) between these funds or the single statutory fund and the Ministry of Health or Ministry of Finance and the existing Social Security agencies.

The issue of risk adjustment mechanisms is perhaps the most intractable when the NHI programme is organised on a competitive basis but within a community rating framework. Since insurers are not permitted to risk-rate and to select subscribers risk adjustment mechanisms are needed to induce their participation in the market. The example of Holland is particularly instructive in this respect even though the risk adjusted capitation system being used is questionable (Van Barneveld et al., 1997; Docteur and Oxley, 2003). Several other countries as diverse as Russia (Sheiman, 1992), Israel (Chernikovsky and Chinitz, 1995), Germany (Saltman and Figueras, 1997) and South Africa (Soderlund and Khosa, 1997) have contemplated its introduction as the key feature of their NHI programme. (A major study on health systems in OECD countries, Hoffmeyer and McCarthy, 1994, also recommended risk adjusted payments as a central feature of a recommended "prototype" of a health system.)

Soderlund and Khosa (1997) looked at several options in designing risk adjustment mechanisms even while conceding that the risk-predictors in current use can only explain a relatively small part on the variation in utilization and health expenses among individuals. Table 2.3 below summarises their main findings. (See also Dunn et al., 1996).

Table 2.3 Possible Solutions to Risk Fragmentation in Health Insurance

Policy Reform	Risk Selection *a/*	Risk Stratification	Political Feasibility *b/*	Consumer Choice *d/*	Enforceability	Insurer Competition
1. Single National Insurer	Eliminated	Eliminated	Poor	None	Good	None
2. Mandating Open Enrolment	Decreased	Unaffected	Good	Full	Poor	Maintained
3. Restricted Choice Models	Decreased	Unaffected *c/*	Fair	Limited	Fair	Partial with franchise type
4. High Risk Pools (HRP)	Decreased	Unaffected	Fair	Limited for bad risks	Fair / Poor *e/*	Only for good risks
5. Risk-equalization Methods	Decreased	Decreased	Fair	Full	Fair	Enhanced

Notes: a/ i.e. Cream Skimming or dumping; b/ Political feasibility obviously depends heavily on the prevailing political environment. This refers specifically to political feasibility in South Africa; c/ Risk stratification could still occur unless accompanied by a risk equalization approach. d/ This refers to consumer choice of insurer, not provider; e/ Depends on criteria for entry into HRP.

Source: Soderland and Khosa (1997)

c) Package of Services to be Covered

Specification of the package or packages of services such as comprehensive covering primary, secondary and tertiary services in the public and private sectors, or catastrophic care only with the option of securing complementary 'wrap-around' or 'top-up' insurance from alternative sources, or a basic package covering a selected mix of primary and secondary care services. The 2 main alternative approaches as defined by Creese and Bennett (1997) are Type 1 consisting of high cost, low frequency, hospital centred services vs. Type 2 containing low cost, high frequency, community based services.

d) Coverage of Population

Enrolment (coverage) of the entire population or selected groups such as those in the formal sector (private and public sectors); opting out clauses; coverage of dependents, pensioners and the poor; special regimes to enlist farmers, the self-employed, informal sector workers such as lower premium, lower cost-sharing, lower income ceiling.

e) Contributions/Premium

Determination of who pays; how much; the basis of the contribution whether income or earnings; contribution based on fixed rates or percentage of income; similar or varying levels of contributions from wage earners, self-employed; pensioners; sharing of the contribution among the worker, employer and government; differential rates for classes of risks; setting of rates by the State or by the statutory fund or by each competing fund; ceilings and floors for insurable earnings; tax deductible contributions; indexation of rates to the rate of inflation or to wage indices.

f) Co-payments and Utilisation Limits

Specification of copayments--zero or small payments; on all or some items of service; as a fixed fee or a percentage of cost; establishment of rates centrally or by each fund; provisions for extra-billing; utilisation and expenditure limits fixed per illness or per service such as drugs, bed-days; visits; surgery.

g) Provision of Services

Provision of services by the funding agency(ies) through own health facilities or purchase of services from competing or non- competing public and private providers; stipulations of eligibility to be a participating provider and terms of provider contract; role of overseas providers and of open market sourcing of overseas services or of contracts with third party administrators to source, monitor and manage overseas care.

h) Remuneration Arrangements

Establishment of rules and arrangements for remunerating providers such as fee for service, capitation, salary, global budgets, per diem, per case; specification of service contracts such as cost, volume or both; time-frames and provisions for processing of claims whether electronic, paper-based or a mix of both.

i) Phasing of the Programme

Specification of phasing of programme in terms of a gradual or aggressive approach to implementation and which services, providers and population groups will be covered in the various phases.

The above range of issues to be considered in designing an NHI programme has major implications for stakeholders and some are more vocal than others in articulating their concerns and positions. As such, the final design of the NHI programme will reflect a mix of financial, social, political and health considerations (Normand and Weber, 1994; Mills, 1996; Ensor and Thompson, 1998). In addition, experience suggests that the final design cannot be "fixed in stone" but must be constantly monitored, evaluated and re-engineered to ensure objectives are being met and that contributors, patients and providers are satisfied (Barnighausen and Sauerborn, 2002; Docteur and Oxley, 2003; Saltman, 2004; Wagstaff, 2005).

2.5 Performance of NHI-Type Systems

In assessing the performance of NHI-type systems across countries, there are 3 observations which can be made:

- no country relies exclusively on any one financing mechanism to raise revenue, facilitate access to care and remunerate providers. In practice, one can identify a dominant financing mechanism and the performance assessment will consider impact in terms of the influence this dominant mechanism;
- discussion of performance may be more helpful in a comparative context which shows experiences of different systems e.g., NHI, tax-based and private health insurance in coping with the challenges of financing health services;
- it is quite difficult to disentangle the overall performance of a health system by looking at the source of financing only. As discussed in Chapter 2, there are 7 aspects of the health financing framework which come together to make a

"system" and to focus on the mode of raising the funds alone will not be very meaningful. However, there are some reasonably broad features which distinguish NHI-type systems from tax-based and private insurance-led ones and observations and inferences from these will be used in the evaluation.

i) Assessing Performance

While there is a wide range of measures and tools developed for or used in evaluation (Zschock, 1979; Gerard and Donaldson, 1993; Hoffmeyer and McCarthy, 1994; McPake and Kutzin, 1997; Wagstaff, 2007), Mills (1983) suggested some key criteria for assessing, broadly yet meaningfully, the appropriateness and performance of health financing systems. These are distribution of financial burden and access to benefits by different groups; quantity and quality of services being financed; efficiency of service provision; efficiency of administration and achievement of national goals - in measurable terms, the latter have been defined in such as universality of coverage, level of health attained, measures of financial protection and consumer satisfaction (WHO, 2000).

a) Sharing of Costs and Benefits

Equity in financing: This may be defined in terms of "progressivity" i.e. those with the ability to pay more should contribute more in practice. Various writers (van Doorslaer and Wagstaff, 1993; Hoffmeyer and McCarthy, 1994; Wagstaff, 2007; Glied, 2008) indicate that NHI systems in IC's and DC's are mildly regressive when compared to systems dependent on general taxes. This is due to the establishment of fixed percentage payroll deductions in many cases, limits on insurable earnings, tax deductible provisions for NHI payments and provisions for "opting out" e.g., in Germany, Holland, Chile. One counter-balancing factor is that out of pocket payments are generally quite low for services covered under NHI-type systems in ICs limiting the burden placed on low income groups to pay for health services. However, top-up insurance for copayments and excluded services still require other sources of financing by households (Docteur and Oxley, 2003; Mossialos and Thompson, 2004).

In a different analysis using another measure of equity, Murray et al., (2003) estimated that ICs with NHI-type programmes e.g., Germany, Belgium performed relatively well in terms of 'fairness of financial contribution' (above 0.9 in most cases) compared to countries with tax-funded plans such as the UK and Spain.

In DCs e.g., South Korea (Kwon, 2003 and 2007) and Vietnam (Ensor, 1995; Ron, Carrin and van Tien, 1998) high copayments are required for insured services. These are more

burdensome on those with lower incomes thus leading to a large measure of regressivity in their NHI programmes (Wagstaff, 2007). Because of incomplete pooling in most DCs, indicators of fairness of financial contribution are generally quite modest (Murray et.al, 2003) and in some cases like Argentina and Colombia more than 5% of households have to make 'catastrophic payments' for health services (Xu et al., 2003).

Equity in access: In ICs this is generally felt to be one of the successful outcomes of NHI (Ham, 1997; WHO, 2000; Docteur and Oxley, 2003; Gottret and Schieber, 2006; McIntyre and Mooney, 2007). However, near universal coverage and equity in access in these countries do not always mean equity in utilisation. For example in France, there are noticeable disparities in utilisation among different social classes and between those living in rural as compared to urban, well-to-do areas (Docteur and Oxley, 2003).

In DCs there are significant differences in the number of visits to health facilities by the insured and those who are not insured and those who are members of less well-endowed NHI agencies e.g., South Korea (Yang, 1993), Argentina (Lloyd-Sherlock, 2006), Mexico (Lloyd-Sherlock, 2006; PAHO, 2007) and Colombia (Rosa and Alberto, 2004). The insured are normally the urban, formal sector workers and their families—thus a definite pattern can be identified in terms of their increased access to and utilisation of health services at all levels as compared to other social groups (McIntyre, Gilson and Mutyambizi, 2005; ILO, 2007; Wagstaff, 2007).

b) Quantity and Quality of Services

Mix of services covered: The package of services covered in most ICs is usually quite comprehensive (Docteur and Oxley, 2003; Saltman, 2004).

In DCs, NHI-type programmes have led to considerable development and expansion in the range and volume of services provided. However, there has been a clear tendency to focus more on hospital-based curative services with preventive services being the responsibility of the Ministries of Health e.g., Costa Rica (La Forgia, 1993; Mills, 2007), Chile (Homedes and Ugalde, 2005), and South Korea (National Health Insurance Corporation, 2005; Kwon, 2007).

Quality of Services: If patient satisfaction and general health outcomes can be used as indicators of quality, ICs with NHI systems can be said to have performed quite well scoring 7 and above in the WHO's 'responsiveness' index (WHO, 2000) and having more

than 60% of the population expressing 'satisfaction' in the Eurobarometer survey of 2001 (Docteur and Oxley, 2003).

In DCs there are few systematic studies on consumer satisfaction and quality of services. Most DCs including several with NHI- type programmes had modest scores according to the WHO's responsiveness index (WHO, 2000).

c) Efficiency of Service Provision

Cost Containment: Compared to the US where private health insurance is more dominant, ICs with NHI-type systems have been more successful in containing cost and preventing unnecessary duplication of services (Himmelstein and Woolhandler, 1991; Fuchs, 1993, Hoffmeyer and McCarthy, 1994; Gottret and Schieber, 2006). One of the major reasons for this seems to be the bargaining strength of the agencies in negotiating reimbursement levels and in curtailing excessive high technology investment. However, compared with countries that have tax-funded systems, cost control is a major concern in most countries with NHI-type programmes with health spending as a percentage of GDP about 9% and above (WHO, 2000). A range of reforms on the supply and demand sides have been or are contemplated to contain costs (Saltman and Figueras, 1997; Preker, 1998; Mills, 1999; Docteur and Oxley, 2003; Gottret and Schieber, 2006).

In DCs, cost control has not been one of the strong points of NHI-type systems. In fact, cost escalation occasioned by consumer and physician moral hazard seems to have been the norm e.g., Korea (Kwon, 2007; Argentina and Mexico (Homedes and Ugalde, 2005; Lloyd-Sherlock, 2006).

Impact of Payment Mechanism: Payment mechanisms are generally similar and not unique to countries with NHI-type vs. other health financing systems (OECD, 2006, Gottret and Schieber, 2006; Glied, 2008). In most ICs with NHI-type systems, negotiated fees and global budgets are used to reimburse providers. In addition, extra-billing is not normally permitted. While these arrangements may be said to have contributed in some way in slowing down cost escalation (while other factors were pushing up costs), there are no noticeable differences whether this has been more successful in countries with NHI-type financing vs. tax funding. However, tighter controls over payment systems (and less 'defensive medicine' practices) have been cited as key factors in cost control compared to the US with more private insurance financing (WHO, 2000; Gottret and Schieber, 2006; Glied, 2008).

In DCs, fee for services especially for hospital and high technology services has led to significant cost escalation and excessive investment e.g., South Korea (Kutzin and Barnum, 1994; Kwon, 2007), Taiwan (Lu and Hsiao, 2003) Chile and Mexico (Homedes and Ugalde, 2005) and Argentina (Lloyd-Sherlock, 2006).

Use of Gatekeepers and Referral Channels: There is much self-referral and direct access to specialist services in most ICs with NHI systems. Formal arrangements to be linked to or enlisted with a GP are not the norm—rather there is greater emphasis on free choice of physician (Preker, 1998; Barnighausen and Sauerborn, 2002; Saltman, 2004). This may have led to a much higher rate of discretionary surgery and other procedures compared to the UK and Denmark where there are vibrant gatekeeper systems (Hoffmeyer and McCarthy, 1994; Wagstaff, 2007).

In DCs with NHI-type systems, there is also little reliance on gatekeepers or on a referral system (Gottret and Schieber, 2006; Wagstaff, 2007; Mills, 2007). As in ICs this may have led to significantly higher rates of surgery and other diagnostic services than in countries without NHI systems e.g., South Korea (Kwon, 2007, Wagstaff, 2007). It is difficult to say whether and by how much cost containment would have improved in these countries if a proper system of gatekeepers and referral was in place. From the evidence in the UK, however, one can only conjecture that this could have led to noticeable general savings in health expenditure.

d) Efficiency of Administration

Cost of Administration: In ICs this has been generally low in most countries i.e. less than 10% of the expenditure of the NHI funds/agencies (Hoffmeyer and McCarthy, 1994; Anderson and Hussey, 2004; Saltman, 2004). However, there are exceptions and in Belgium and Germany some of the sickness funds are spending closer to 15% of their collections on administration (Saltman, 2004). It is suggested that this was due more to the relative size of the fund and location of its membership than to administrative waste.

In DCs the cost of administration in NHI systems has generally tended to be higher than in IC's - some estimates put this closer to 20% (Barnum and Kutzin, 1994). Some of the high percentage of administrative expenditure is due to the fact that NHI agencies also own and operate health facilities - many of these duplicate the services offered by Ministry of Health facilities especially in Latin America (Homedes and Ugalde, 2005; PAHO, 2007).

Viable Funds and Inter-fund Transfers: In many ICs there is usually no single agency serving as the administrator of the NHI system. Rather, there are several competing and non-competing sickness funds. In the past, several of these funds were too small and uncompetitive (low economies of scale, small membership, high administrative cost) and were only kept in existence through interfund transfers at periodic intervals. For example, in Germany and Japan there were over 1200 and 400 funds respectively at the beginning of the 1990's (Glaser, 1991; Roemer, 1993; Hoffmeyer and McCarthy, 1994). By the first half of the decade of the 2000's, competition and consolidation had reduced these to less than one-half the amount (Gottret and Schieber, 2006). In Holland, reforms in the 1990's to achieve more efficiency in the administration of the funds, encouraged direct competition with commercial insurers which led to a reduction in the number of funds (Docteur and Oxley, 2003; Saltman, Busse and Figueras, 2004). At the same time, there were key changes made in interfund risk-sharing adjustment methodologies and mechanisms which facilitated these reforms.

In DCs, some NHI-type systems are also managed by a mix of regional, provincial, industry or commercial funds as in Mexico, Chile, Argentina, Colombia and Uruguay (Savedoff, 2003; Homedes and Ugalde, 2005). In South Korea there were more than 400 funds—these have now merged into a single fund (Kwon, 2003; National Health Insurance Corporation, 2005). Except for Colombia (Mills, 1999; Rosa and Alberto, 2004; Savedoff, 2003; PAHO, 2007) interfund transfers are not very common Whether a single fund or multiple funds, administrative inefficiencies along with macroeconomic difficulties in some years led to financial deficits necessitating subsidies from the State (Mesa-Lago, 1989; Homedes and Ugalde, 2005; Lloyd-Sherlock, 2006; Kwon, 2007)..

e) Achievement of Health Goals

Health Goals: If the goals outlined by the OECD (1987) are taken as proxies - universal coverage, income protection, macroeconomic efficiency, microeconomic efficiency, consumer choice and provider autonomy- it can generally be said that NHI-type financing has made a significant contribution towards meeting these goals. As discussed above not all these goals have been satisfactorily achieved and issues of cost containment, equity in access, and microeconomic efficiency in the use of resources continue to test the innovativeness and ingenuity of policy-makers and health managers.

In DCs these goals still elude many countries with NHI systems. While there has been notable achievement in terms of the development of health services, general inequity and inefficiency are still the major issues confronting policy-makers.

Improved Health Status: In both ICs and DCs with and without NHI systems there has been significant improvements in health status (using standard health indicators) over the last few decades. It is difficult to say what proportion of the improvements in overall health status is due to the financing system. One can only suggest that improved access and better health security for significant segments of the population may have played a key role in attaining and sustaining these improvements (Musgrove, 1996; WHO, 2000 and 2001).

Carrin et al. (2004) used econometric analysis of national data to examine the extent to which countries with different health financing systems performed in relation to achievement of WHO's health goals—level and distribution of health measured in DALES; level and distribution of responsiveness; fairness of financing (WHO, 2000). They separated countries on the basis of the level of risk pooling (advanced, medium and low) and type of financing system such as tax-based, contribution-based through compulsory contributions and other systems. In general they found that countries with advanced levels of pooling and contribution-based systems such as Germany, France and Japan seemed to perform on par with those having tax-based systems such as UK and Canada and much better than those where risk pooling arrangements were less advanced such as US, Colombia and Argentina.

xii) Lessons From Experience With NHI-type Systems

In IC's and DC's the experience with and performance of NHI systems have been quite varied. No system has remained unchanged over its existence and reforms and refinements have been quite frequent. From this mixed history of successes and failures, certain clear lessons have emerged for countries contemplating the introduction or reform of NHI systems. Mills' (1983) 5-point criteria provide a useful basis for integrating these conclusions and suggestions.

a) Sharing the Costs and Benefits.

- NHI improves access to services for many persons but ease of access does not mean equity in utilisation. Significant differences are observed in the levels of

utilisation by different groups with similar needs (Glaser, 1991; Docteur and Oxley, 2003, Wagstaff, 2007).

- NHI systems continue to operate in favour of the urban, formal sector elite while leaving the rural and informal sector workers underserved (Hsaio, 2006; Gottret and Schieber, 2006) Better targeting with appropriate health services and facilities should be established to improve equity in distribution (WHO, 2000; Preker and Carrin, 2004; Mills, 2007;).
- State subsidies to NHI systems which have limited coverage of the poor place an unfair burden on the poor as taxpayers. In these systems, expansion of coverage to the entire population should be progressive and measurable (La Forgia, 1993; Preker and Carrin, 2004; Wagstaff, 2007).
- Opting out of compulsory insurance arrangements runs counter to the principles of social solidarity and can rapidly lead to the establishment of a two-tiered health system. Persons should be required to remain in the system and purchase supplemental private insurance if they so wish (Mills, 1998; Normand and Busse, 2002; Saltman, 2004; Gottret and Schieber, 2006).

b) Quantity and Quality of Services

- Legal entitlement to services must be translated into easy access to adequate, high- quality services. Otherwise, popular support for NHI will decline and the clamour for opting out and enhanced choice will increase (Roemer, 1993; Normand, 2001; Figueras et. al, 2004).
- NHI systems cannot afford to ignore preventive and primary care services. Every effort should be made to have integrated health services to achieve economies of scope and synergistic benefits (Kutzin and Barnum, 1994; WHO, 2000; Docteur and Oxley, 2003).

c) Efficiency of Service Provision

- Supply-side cost containment measures (such as case based and capitation payments systems, utilisation reviews, use of gatekeepers, pre-admission reviews) are more effective in controlling costs than demand-side measures such as cost sharing and utilisation limits (Fuchs, 1993; Docteur and Oxley, 2003).
- A well-organised referral system is essential for ensuring appropriate levels of care and the efficient use of resources (Gottret and Schieber, 2006; Mills, 2007).

- Competition in providing services should be based on price and non-price factors. Even where NHI agencies own and operate health facilities some competition with private providers can be encouraged to lead to a general scaling up of quality of services rather than a race to offer high technology services (World Bank, 1993; Normand and Busse, 2002).

d) Efficiency of Administration

- Consolidation of small funds is necessary for economies of scale, adequate risk-pooling and overall viability. However this should not be achieved by creating excessive bureaucracies which lose the advantages of decentralised and local administration (Hoffmeyer and McCarthy, 1994; Chernichovsky et al., 2003).
- Single collector and payer systems are more administratively efficient and have more bargaining strength than diverse agencies (Evans, 1986; Himmelstein and Woolhandler, 1991; Mills, 1998; Anderson and Hussey, 2004).
- The State has a major role to play in developing appropriate legislation, regulations and incentives and to provide ongoing information to stakeholders so that transparency and accountability in operations of NHI agencies can be constantly tested (Ron, 1993; Mills, 2007).

e) Health Goals

- Health goals and priorities must be clearly established. The objectives of the NHI must be consistent with these goals if health managers and NHI administrators are to work together and not frustrate each other or the goals of the health system (Normand and Weber, 1994; Dror, 2000; Normand, 2001, Kutzin, 2007).

Several questions arise in relation to designing NHI options from this review of the expectations and mixed experiences with NHI-type systems. Abel-Smith (1985) highlighted many of these concerns more than two decades ago:

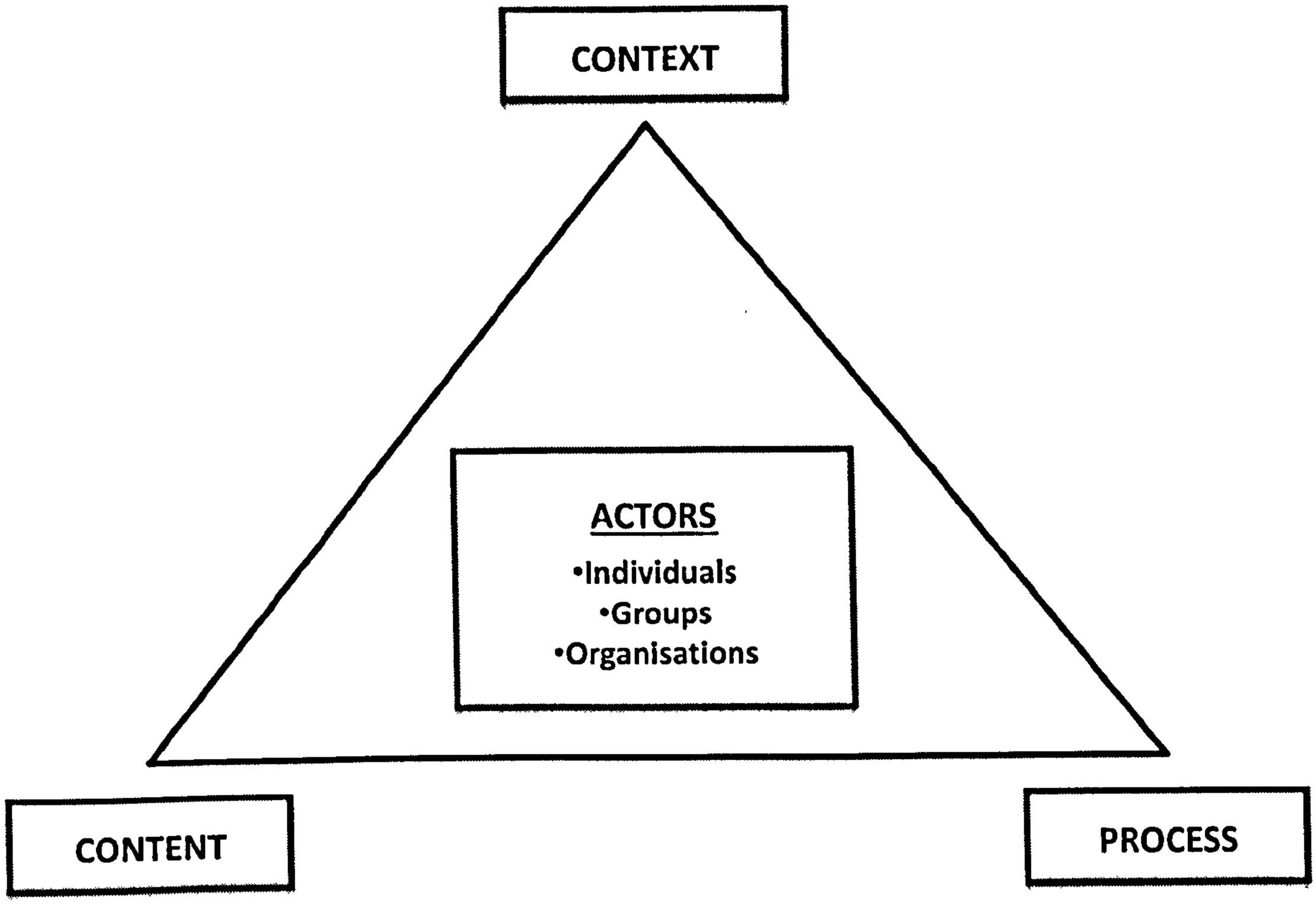
"the problem for DC's contemplating the introduction of NHI is to design systems which avoid all the problems which have manifested themselves in Europe.... and on a wider scale in Latin America.... the escalation of costs, failure to collect contributions due, the provision of 'paper rights', bureaucratic obstacles to receiving care, different funds with varying rights, wholly separated services for insured persons, the bias to urban curative services and the separation of curative from preventive services. World experience suggests that services provided under NHI need to be closely coordinated with governmental services and the policy governing them should be kept under the close supervision of Ministers of Health" (p.957).

2.6 Stakeholder Analysis as a Tool to Assist Policymaking

In democratic societies where governmental policies and decisions are determined more by consultation, debate and bargaining rather than by dictate and command, several analysts have underscored the crucial roles of stakeholder (interest) groups in influencing the design, timing and implementation of health policy (Reich, 1994; Barker, 1994; Walt and Gilson, 1994; Ling, 1999). As such, the final shape and substance of a health policy may reflect not so much an optimally rational or technocratic design (characterized by systematic consideration of all options and applicability of pre-determined cost-benefit rules) but a satisfying solution based on what is politically feasible and acceptable (Hogwood and Gunn, 1984; Grindle and Thomas, 1991; Walt, 1994; Figueras et al., 2000). Drawing on principles and practices from development sciences, policy and political analysis, stakeholder analysis has become increasingly popular as a tool to examine and manage the influence of key actors on the policy process (Brugha and Varvasovskzy, 2000).

Stakeholders bring different insights, perspectives and passions to the policy debates drawing attention to issues and implications which may have been missed or ignored by those designing and implementing policy. Grindle and Thomas (1991) identify stakeholders as individuals, groups and organizations with special interest in a policy and its outcomes while Marmor (2005) defined them as interest groups with material and symbolic stakes in policy outcomes. (He estimated that over 8000 lobbyists were involved in the debates over the 1993 Clinton health reform proposals). Analysts distinguish 3 groups of stakeholders - primary as those ultimately affected negatively or positively by a project/policy; secondary as those intermediaries in the implementation process; and key stakeholders as those who can significantly influence the design and outcome of the project/policy (Barker, 1996; Ham, 1997). Key stakeholders (as individuals, groups and organizations) interact directly with policymakers and Walt (1994) assigned them a pre-eminent place alongside the other major factors such as the context, content and process of health policy decision making (See Figure 2. 8 below).

Figure 2.8 Factors in Policy Analysis and Policy-Making

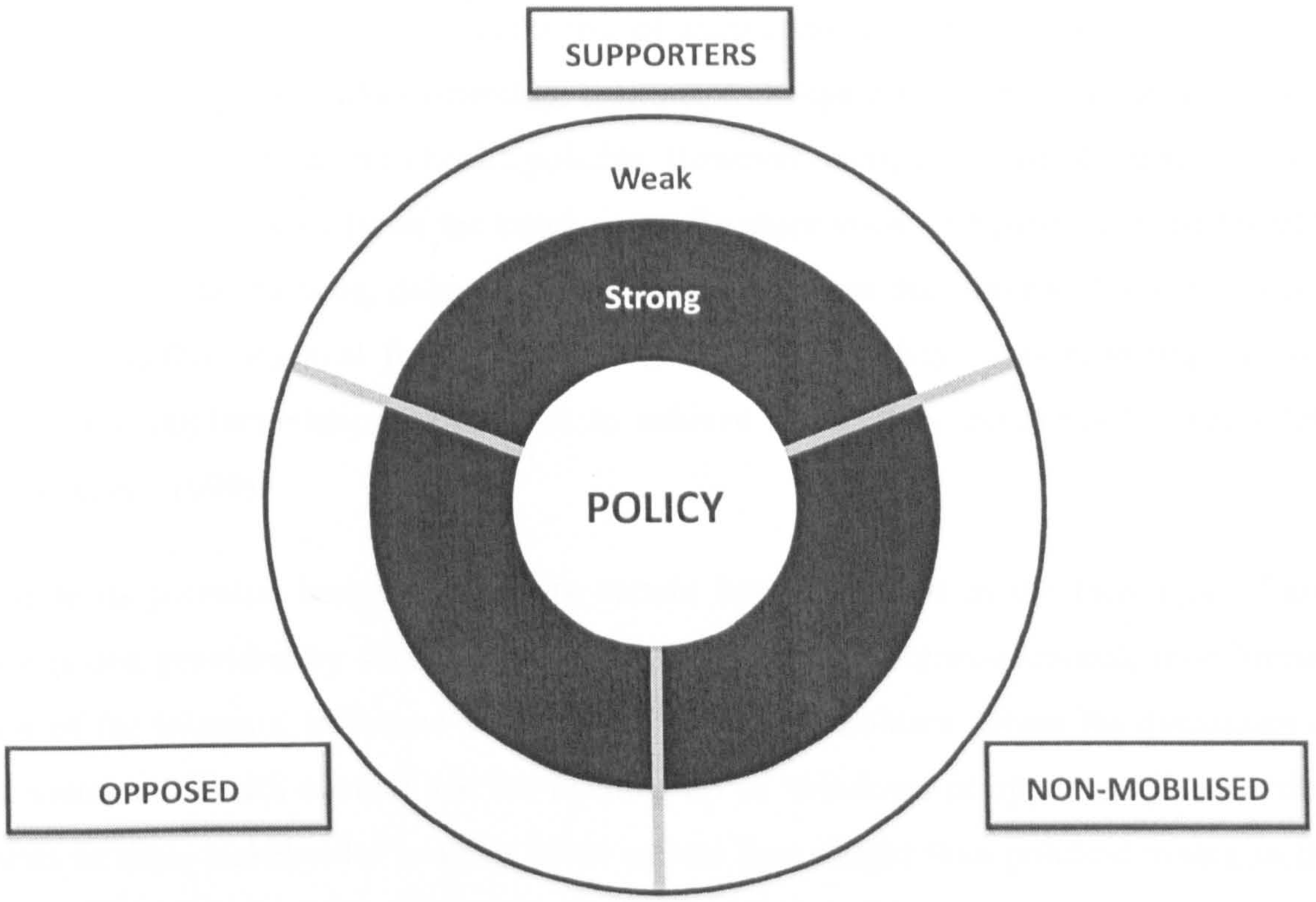


Source: Walt and Gilson, 1994

Reich (1994) suggested a 6-stage process in conducting a stakeholder analysis:

- definition of the goals, mechanisms, benefits and costs of the policy;
- identification of stakeholders by type (individuals; groups and organizations); sector (government, NGO, community, commercial, international); level of power or influence (low, medium, high) and their position in relation to the (proposed) policy (support, opposed, non-mobilised). A network map (another version of 'forcefield mapping') can show the number and relative position of stakeholders i.e. weak or strong opposition/support or non-moblised (Figure 2.9.).
- analysis of sources and strength of opposition and obstacles as well as support of the various stakeholders. Walt and Gilson (1994) suggest that the sources of power/influence of stakeholders are based on their position in the social hierarchy (professional, organizational or political); authority of leadership; control over strategic resources (such as money, votes, skills, mobilization strength) and possession of specialist knowledge;
- specific strategies to counter opposition, reinforce support and win the non-mobilised;
- implementation of strategies;
- monitoring and evaluation of strategies.

Figure 2.9 Framework for Network Mapping of Stakeholders



Source: Reich, 1994

Given resource and time constraints, the task of identifying the strategies centers on finding the ' optimal fit' or best mix of measures for each category of stakeholders so that opportunities are not missed and resources wasted. A framework for 'optimal fit' analysis is shown in Table 2.4. (Varvasovskzy and Brugha, 2000). It shows that strategies to encourage involvement are best for those who support a policy; collaboration for those who are uncertain whether to support or oppose; defending the policy to counter those who are opposed and monitoring their actions in relation to those groups which are not significantly affected by the policy. It also shows that it is risky to involve those who have mixed positions or who are non-supportive and a waste of resources to involve, collaborate with or defend a policy in relation to marginal groups.

Table 2.4 Strategies for Managing Stakeholders According to their Organisational Positions

Strategies / Positions	Involve	Collaborate	Defend	Monitor
Supportive	Optimal Fit	Missed Opportunities	Missed Opportunities	Missed Opportunities
Mixed	Risk	Optimal Fit	Missed Opportunities	Missed Opportunities and Risk
Non-Supportive	Risk	Risk	Optimal Fit	Risk
Marginal	Resource Waste	Resource Waste	Resource Waste	Optimal Fit

Source: Varvasovszky and Brugha (2000)

Whether called 'involvement of civil society' or 'community participation' or 'consensus-building', more countries are making use of systematic or periodic consultations with stakeholder groups to build ownership, legitimize change and establish alliances for the design and implementation of health policies. However, recognition that there are winners and losers in any policy (with the latter generally more vocal and perhaps more forceful in their ability to frustrate, delay or derail a policy) means that stakeholder analysis can serve a valuable practical function in providing data to policy on how to improve the design and implementation of policies to achieve satisfactory outcomes (Reich, 1994; Gilson et al., 1999).

Despite its potential benefits, there are certain key limitations in the technique of and information provided by stakeholder analysis. It provides a cross-sectional, time limited view of the interests, influence and interactions of stakeholders. Given the dynamism of the social and health context and the opening up of 'windows of opportunity' at various points in time, stakeholder analysis often carries less weight than political timing in the making of policy decisions (Grindle and Thomas, 1991; Gilson et al., 1999; Brugha and Varvasovskzy, 2000). In DC's the role of stakeholder analysis seems more varied given the importance of non-formal processes in decision making (Walt and Gilson, 1994); the strength of international lending agencies in supplanting local stakeholder influences on substantive policies (Homedes and Ugalde, 2005) and small powerful social groups.

Stakeholder analysis, rigorously conducted, provides helpful data to support policy formulation and implementation. However, it needs to be supplemented by other techniques and more so by strategic leadership, technical and political, to have a more decisive impact on health policy.

2.7 Summary of Lessons and Key Issues for Jamaica

This review of the literature on the international experience with NHI and to a lesser extent with stakeholder analysis has examined both the possibilities and the problems. Arising from this, there are certain key issues of policy, design and management to consider in articulation of a similar programme in Jamaica. These are:

- clarification of the role and policy objectives of the NHI programme in terms of balancing the concerns over revenue generation, equity, efficiency and financial sustainability;

- ensuring that services in the benefit package are available and that members do not end up with "paper rights" but compromised benefits;
- specification of indicators to measure equity in finance and access, cost escalation and efficiency;
- clarification of the nature of competition and choice in the programme.
- determination and analysis of the perceptions, concerns and proposals of key stakeholders on an NHI programme.

The above review has also identified certain outstanding and unresolved issues that need to be taken into account in defining the options for Jamaica:

- The need to examine separately NHI as a means of raising funds and the payment mechanisms for providers. There is nothing which locks a NHI system into a particular payment mode such as fee-for-service or open-ended budgets. In fact global budgets as in Germany for primary care services, tightly controlled fee structures for all providers as in Japan, capitation as in Holland, coordination of services financing and provision as in Costa Rica, can be cited as good practice for any type of financing system.
- the balance between centralised administration and negotiations and decentralised operations is very context-specific and there are no general conclusions which can be drawn from the literature on this. Similarly there are no clear answers as to whether the NHI programme should be integrally linked to the existing Social Security system or stand alone.
- developments in the labour market are weakening the historic bases on which NHI was built in the past. These include the tendency for more contract rather than tenured employment, early retirement and self-employment. The risk of noncompliance is greater but this has not been adequately addressed in the literature.

Of the 9 key components which form the basis for an NHI programme, 4 will be used as the focus for designing the NHI options for Jamaica. These are:

1. the administrative and regulatory framework;
2. the package of services;
3. the nature of the contribution i.e. a payroll tax or fixed contribution;
4. the level of copayments.

a) The Administrative Framework

There are 3 main issues of concern in specifying the administrative framework:

i) A Single or Multiple Fund Insurance System: There are advantages and disadvantages of each. Glaser (1991), Kutzin (1998) and Anderson and Hussey (2004) suggest that a single centralised statutory fund has more negotiating power vis-a-vis service providers, can take advantage of economies of scale in its operations such as in claims recruitment and marketing and can develop more cost effective arrangements with overseas providers of care for particular cases. This seemed to have been the general reasoning which led to the merging of several insurance funds into a single payer entity in Taiwan (Cheng, 2003) and South Korea (Kwon, 2006 and 2007); On the other hand, in a competitive setting with several funds there is more consumer choice, more innovative policies and a tendency for more efficiency in the operations of all insurers. There is also much selective membership and cost shifting with extensive risk adjustment mechanisms in some countries to counter these practices. In a small country the benefits of multiple funds may be quite limited given the likely narrow membership base of each.

ii) The Inclusion of Private Insurance Carriers in the System: In most of the countries with NHI systems the participating carriers are either statutory or private and non-profit. Given the difference in utility functions of a for profit as against a non-profit carrier it is debatable whether for profit firms can conduct their operations to reflect the social solidarity objectives of the NHI programme.

iii) The Nature and Location of the Regulatory Mechanism: Quite apart from the need for a fairly comprehensive legislative base there is also the need for strong regulatory agencies at several levels - to bring the insurers, providers and payers to the negotiating table, to research and suggest or actually fix rates and the contents of the packages, to arbitrate in disputes. In Japan for example, many of these functions are housed in the Ministry of Health and Welfare while in Belgium they are in the Ministry of Labour. The issue of regulatory capture also becomes relevant given the dominance and social power of the medical associations in all countries (Kwon, 2007).

b) The Package of Services

There is disagreement in the literature over the contents of the package of services. From a pure insurance perspective there is the contention that only those services which are

high cost-low probability (i.e. catastrophic) fit the criterion of insurability. This excludes much discretionary and preventive health expenses (Hall, 1994). On the other hand, many contend that the focus of NHI on urban-based, hi-tech, curative services is misplaced and it should include primary and preventive services (Abel-Smith, 1992; Bobadilla, 1996; Schreyogg et al., 2005). Also, the influential World Bank suggestions for greater use of health insurance including mandatory insurance in DC's dwell on curative services that bring more personal than social benefits (Akin, 1987; World Bank, 1993).

The distinction between catastrophic and non-catastrophic services was quite evident in Holland, for example, where no one could opt out of the plan for covering catastrophic services while there was choice in terms of packages for non-catastrophic care (van de Ven and van Vliet, 1992). In Jamaica where some overseas care for catastrophic services is costly but technically necessary, it cannot be ignored in considerations of NHI options.

An important aspect of the decision on the package is the availability of State-funded services. A proposal which seeks to make an essential package of services available to all, through the NHI system, while retaining some services which are fully financed by the State and giving insurers the freedom to determine add-on insurance benefits will be considerably different from one which seeks to provide comprehensive coverage in NHI.

c) Percentage Payroll Taxes vs. Flat Rate Deductions

The majority of countries with NHI-type programmes use payroll taxes to secure deductions from members. Where levels of formal sector and especially wage employment are quite high and inflation is low there are sound reasons for using payroll taxes. On the other hand where the working population is made up of a large percentage of self-employed and informal sector workers it may be extremely difficult to assess earnings and to collect contributions through payroll deductions. The major implication of the failure to collect from all members at the right time and at the right amount will be reflected in the compliance variable used in the financial modeling exercise. A low compliance level will clearly wreck the NHI plan unless Government steps in with subsidies or there are cuts in the package, payment rates and administration.

Another relevant factor is the relation between the premium and household size. A system which uses a percentage deduction from earnings regardless of one's family size may be more administratively feasible than one in which flat rate premiums are charged for each family member.

d) Co-payments

The use of copayments varies among countries with NHI-type programmes. In European countries the rates tend to be quite low while in DC's the rates are much higher (although none approaches the levels in South Korea). Copayments can be used selectively to adjust contribution rates, deter moral hazard or more positively to channel the utilisation of particular services from particular providers. It is used in the financial models as a key variable and in the evaluative framework as an indicator of equity.

The other key elements will be incorporated into the overall design through relevant assumptions of their impact on the financial models. These assumptions are as follows:

- in terms of the conceptual framework, the NHI will be used as a dominant mode of financing mechanism but would not completely replace all other sources of funds;
- it is assumed that any option will target the entire population (universal coverage) as members rather than specific groups;
- given the mix of providers in Jamaica with the State being more dominant in the secondary care market and the private sector in the ambulatory care market as well as the small size of the country it is assumed that all current providers of services in the public and private sectors will constitute the provider network. As such it is not necessary for insurers to specify or negotiate with preferred providers in the system.
- The particular method(s) of reimbursement will have major implications for the behaviour of providers and costs. Since the major impact of any reimbursement plan will ultimately be reflected in the cost of services, the Study incorporated these effects in the sensitivity analysis. For example, an assumption may be made that a fee for service payment system will lead to a 10% overall increase in the cost of the package. This can be used to trace the impact on contribution levels, and assess whether these should be increased or whether some portion can be met from higher copayments or even adjustments to the package of services.

CHAPTER 3: DESIGN OF STUDY AND METHODOLOGY FOR DATA COLLECTION AND ANALYSIS

3.1 Approach to Key Issues to be Discussed

Jamaica, after more than 4 decades of policy intent and discussions, has not proceeded beyond broad proposals and does not currently have an NHI Programme (NHIP) in place. This experience of deferred decisions and non-implementation is fairly similar to that of several other DC's since the late 1980's when health financing reforms became a key aspect of recommendations for the health sector (World Bank, 1993; Mills, 1998; WHO, 2000; Carrin et.al, 2004; Wagstaff, 2007). As a consequence, the approach used in this study was to conduct an *ex ante* evaluation of the policy and operational issues of feasible NHIP options. These options were defined on the basis of recommendations gleaned from the government and key stakeholders as well as from the suggestions in the international literature on 'best practice' in designing NHI.

Given the overall goal and specific objectives of the evaluation i.e. to define the factors leading to the policy choice of NHI, specify the key operational and financial implications of potential NHI options and assess the relative merits of each to determine a preferred option, the purpose of this Chapter is to present the design of the study. In doing so, the core tasks are to define and discuss the methodological framework and tools utilised in data collection, analysis of NHI options and derivation of conclusions.

Since the design and implications of NHI extend beyond purely health financing considerations, the methodological challenges meant covering an information set that included aspects of public policy, fiscal behaviour, social protection, stakeholder and community participation as well as the core areas of the economics, management and financing of health insurance. In addition, since national policy decisions and policy making are strongly determined by local context, the study required fairly in-depth understanding of the motivations and challenges facing the government and local stakeholders in relation to the design of an NHIP amidst other competing concerns. Gathering the specific data for various components of the evaluation required a mix of research methods. These included literature surveys, primary and secondary data collection and analyses, application of quantitative and qualitative tools as well as descriptive and forecasting techniques.

The discussion of tasks, research methods utilized, issues encountered and strategies employed to address these issues will be presented in the following manner:

- outline of the overall conceptual framework used in moving from goals and objectives to the major findings and conclusions;
- specification of key research questions and data requirements pertaining to each of the study's objectives;
- elaboration of data collection and analysis methodologies - literature review; secondary data; semi-structured elite interviews; participant observation; key informants; content analysis, stakeholder analysis, political mapping, financial modeling and forecasting;
- derivation and articulation of the role of the 'best practice' prototype in identifying NHI options for Jamaica;
- specification of evaluation criteria for appraisal of NHI design options;
- review of data quality and likely influences on the results of the study.

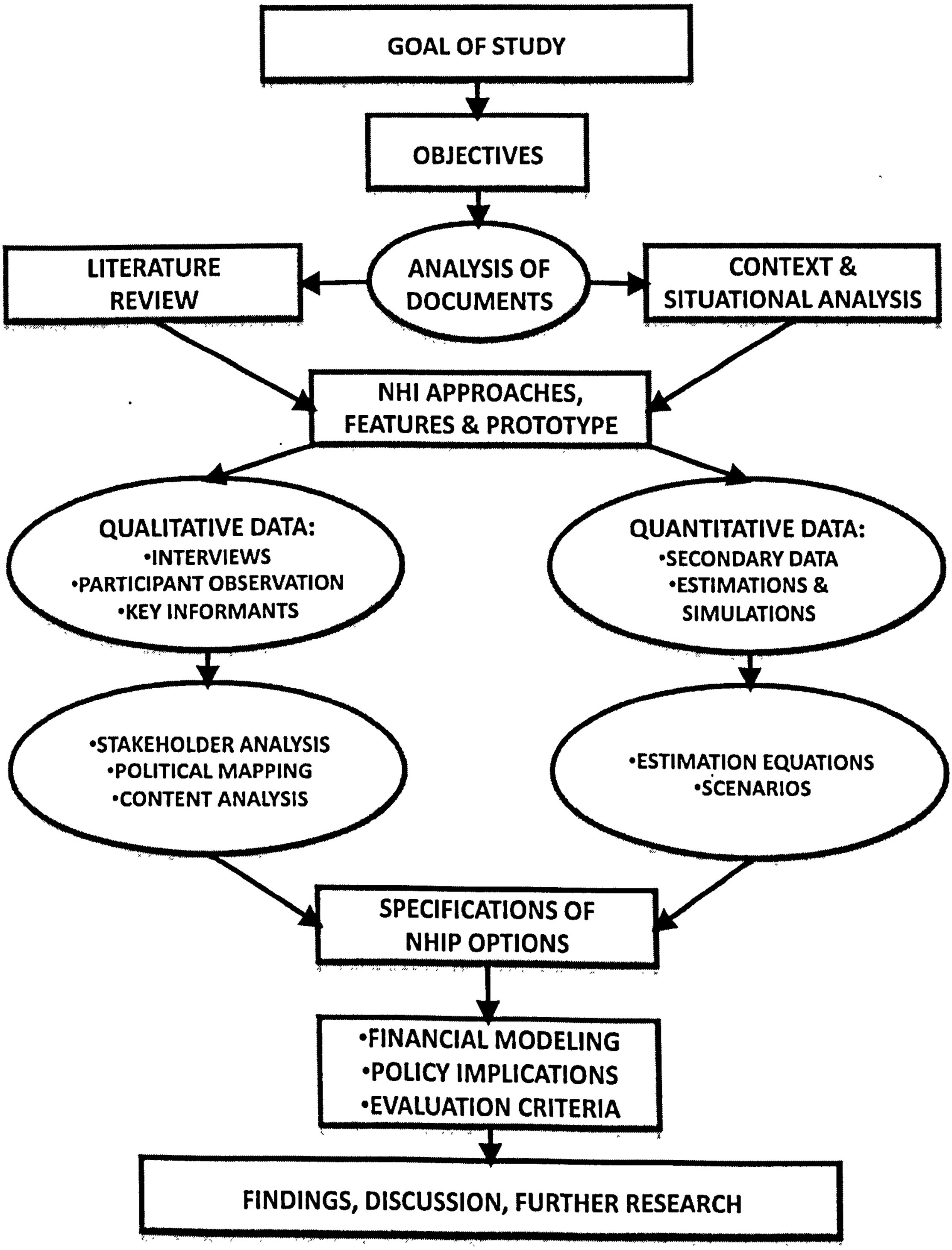
3.2 Conceptual Framework for Study

The approach and general sequence of actions and analyses undertaken in the study are shown in Figure 3.1. The starting point was the definition of goals and objectives. This required decisions on 2 seemingly opposite considerations—firstly, narrowing down the initial broad and expansive conceptions of the various aspects of the study into more tightly defined statements of what was the central purpose and what was achievable in a *ex ante* research exercise. The second was to broaden the analysis from a strict financial modelling and evaluation exercise into a more appropriate health policy study by giving due attention to the policy context and role of stakeholders. The resulting goal and objectives are shown in Section 1.4.

This was followed by an analysis of documents to achieve 2 main objectives—to understand the theoretical and empirical issues in NHI design and implementation as well as to examine the local context influencing the attention to and design of NHI. The first objective required a focused literature review of published and unpublished materials on the theoretical constructs and international experience with NHI in both ICs and DCs (Chapter 2). The second objective led to an in-depth examination of documents describing features of and challenges in the local socio-economic, health, health financing

and overall policy context. A key aspect of this examination involved an intensive review of the most significant of the government's documents on NHI—the Green Paper on National Health Insurance (1997).

Figure 3.1 Conceptual Framework of Study



Source: Author's representation

The analysis of documents produced an information base for the definition of NHI approaches, features and prototype and consequently, for focusing the field work efforts

in the collection of qualitative and quantitative data. In terms of qualitative data, the field work was organized around selected issues, selected groups of persons to be interviewed and consulted as well as discussions and clarification of issues with key informants. This aspect of data collection also involved in-depth participant observation of the interplay of technical, administrative and political factors in the responses to and process of designing an NHIP.

The quantitative data collection was organized around the core data set needed for the financial modelling. This data set was generally defined after the literature review stage and the data gathering included published and unpublished sources.

Information gathered from the qualitative and quantitative data collection efforts were then organized for analysis. In the case of the qualitative data, this meant collating and analyzing the responses of stakeholders and key informants along with insights from participant observation to identify perceptions, positions, power and recommendations in relation to NHI.

The quantitative data were merged and organized into a set of relations and equations for estimating the key magnitudes and outputs of the financial modelling of NHI options. These relations and equations were prepared using the theoretical and empirical insights gained from literature review.

The information from the qualitative analyses and quantitative outputs permitted the narrowing down of several recommendations into a short manageable list of feasible NHI options and components for evaluation. This short-list included the government's NHI proposal as well as that of key stakeholders and the prototype developed from the literature review of best practices internationally.

At this point, the financial modelling of the options was undertaken with regard to the general inflows and outflows of funds in the baseline, best and worse case scenarios. In each case the various estimates were narrowed down to the likely implications for 2 critical indicators—the pay as you go contribution rate (PAYGR) for workers and the contribution expected from government compared to its actual and projected spending.

The evaluation criteria –developed from the literature review and from collation of responses from key stakeholders to a specific question on this--were then applied to assess the relative merits of each option. The evaluative criteria included net revenue generation, percentage of the population covered ('breadth'); range of services in the

benefit package ('depth'), extent of equity in contribution-financing and copayment ('height'), efficiency in allocation of financing and burden of contribution on government.

The implications of what emerged as the most feasible option were then explored in terms of what they meant for changes in the status quo from the viewpoints of decision makers, administrators, other key stakeholders and the overall health system.

Finally, the overall approach to and outputs of the evaluation were examined in relation to knowledge gained, the shortcomings of the study as well as the significance of the findings for other countries and implications for further research.

3.3 Key Research Questions and Data Requirements

From the specification of the goal and objectives of the study, there followed a definition of the key questions and data needs to focus on a manageable yet comprehensive set of the critical issues in relation to each objective. From this definition the data requirements were specified and the methodologies for data collection and analysis subsequently developed and implemented.

The first objective required delineation of the factors influencing the policy drive for an NHI in Jamaica. This meant focusing on key questions such as what were the historical, political, institutional, macroeconomic and health specific concerns which pushed the government to put NHI on their agenda for action. Included in this list was the question of to what extent external agencies such as the ILO, World Bank, IDB and United States Agency for International Development (USAID) played a role through their involvement and recommendations in social and health policy for Jamaica. The dataset for answering these questions required a mix of review of relevant official and institutional documents and proposals, interviews with technical staff and policy advisors and analyses of the relevant statistical data to determine the likely basis for the attractiveness of NHI.

In terms of the second objective which called for a definition of the key elements of feasible NHI options, the main questions centred on what were the recommendations for NHI coming out of best practices internationally and what were the perspectives of key local stakeholders on the model of NHI which would be most appropriate for Jamaica. These issues required data derived from a focused literature review on the concepts and practical experience internationally in respect of NHI-type programmes (presented in Chapter 2). It also needed qualitative information from key stakeholders who were

usually consulted for advice on health and health financing matters or who would be directly involved in the design or implementation of an NHIP.

The third objective focused on quantification of the financial implications of NHI options flowing from international best practice, government and other key stakeholders. The key questions involved defining the main components of inflows and outflows in each NHI option i.e. sources of revenue and financing on the one hand and the benefit payouts and other costs on the other. It also required clarification of assumptions in terms of what was measured and what was omitted as well as constructing scenarios to reflect uncertainties and changes in the values of key variables.

The assessment of the relative merits of each option using criteria such as efficiency, net revenue generation and equity was defined as the fourth objective. The key questions centred on how to define and weight these evaluative criteria in quantitative terms so that, in their application, the assessment produced what may be defined as a preferred option. The dataset for this evaluation required review of the international literature to determine the standard criteria recommended, conceptually and empirically, in similar evaluations. It also meant going to stakeholders and policy advisors to ascertain their recommended criteria as well as the relative significance they attached to these so that the assessment reflected what they considered as appropriate for Jamaica.

The final objective sought to explore the policy and operational implications of the preferred NHI option and the likely impact on stakeholders and on health goals. The key questions required attention to what were the expected cost and benefit to different groups of stakeholders, what was the administrative capability to implement an NHI and to what extent NHI would add value or improve the functioning of the health system. This required returning to the pre-NHI context as described or indicated in the local reports and studies as well as gleaning information from specific groups of stakeholders on how they felt they would be affected by an NHI. In addition, this meant exploring to what extent the analysis of NHI in Jamaica held lessons for other countries seeking to establish or reform their health financing systems and the new research issues generated by the analysis for Jamaica and the international community.

3.4 Data Collection and Analysis: Analysis of Documents

The general analysis of documents and secondary data collection sought to provide essential data and deepen understanding of the issues and experiences pertaining to

designing NHI. The review of documents took the form of systematic secondary data analyses, assessing the quality of information and organising information into themes and taxonomies as well as looking for different interpretations and inferences than the original inquiries. This involved 3 separate but inter-related activities--rigorous review of the conceptual and empirical literature (internationally) on health insurance and policy analysis; examination of specific published reports on health, health financing, socio-economics and policy making in Jamaica; review of the grey literature consisting of unpublished reports, papers, letters and other in-house documents recommended or provided by key informants or acquired though participation in conferences.

a) International Literature

The methods, sources of data and results of the international literature review were fully discussed in Chapter 2.

b) Situation Analysis of Jamaica

This was the second major component of the analysis of documents. It entailed collection and review of a range of information to provide the local contextual data for the study. The major reports on Jamaica, published by local and external agencies, covered historical and contemporary demographic, economic, social and political developments. Local bodies included official agencies responsible for collecting and disseminating data on demographic, economic and social statistics such as the STATIN, PIOJ and (the central bank) Bank of Jamaica. External agencies included the multilateral financial institutions such as the World Bank, IMF and IDB; regional financing institutions like the Caribbean Development Bank; international organisations such as the UNDP and UNCTAD and private groups such as The Economist and credit rating agencies.

These reports provided vital statistical and background data for reviewing the sector specific reports on the epidemiological, service provision, service utilisation and financing aspects of health in Jamaica. Health specific data and analyses were also derived from a mix of local and external institutions. Locally, the MOH, PIOJ and University of the West Indies (UWI) were the principal sources of materials while externally, PAHO, WHO and United Nations Children's Fund (UNICEF) were the key sources. In terms of specific information on the government's proposal for NHI, the MOH's 2 critical documents were the main sources—the Green Paper on NHIP (1997) and the NHIP Policy Framework Paper (1998).

While the bulk of the information in these reports dealt with issues in the public health sector, there were several helpful documents and chapters in the above reports which provided vital data on the private health sector (for profit and not for profit sub-sectors). Additional data on the private health sector came from Annual Reports of some of the large insurance companies with health portfolios.

Published materials, though less formal and less rigorous than the above, included election manifestos by the main political parties where health issues and proposals were discussed alongside other plans for action in other sectors. They also included news items, feature reports, commentaries, letters to the editor in the mainstream daily and weekly newspapers generally covering the period from 1996—2001.

c) Review of Unpublished Works and Grey Literature

The third contributory source of vital material for the analysis was the grey literature. This comprised unpublished works and was derived from 3 main sources. Firstly, issues related to NHI, social protection and stakeholder analysis have been the subject of several reports prepared by management and other health consultants hired by Ministries of Health or international and bilateral organisations. These reports provided valuable data not just on Jamaica but also on several other Caribbean and developing countries. Because of their 'official' nature they generally tended to have limited circulation.

Secondly, the examination of the grey literature included papers, commentaries, works in progress and power point presentations delivered at conferences and seminars. Some of these documents were provided by key informants while other documents were secured from personal participation in some of these seminars and conferences.

The third main source of unpublished materials came from direct participation in the work of the MOH in Jamaica. These 'primary sources' of materials (Allan and Skinner, 1998) included public speeches and presentations made by Ministers of Health, other officers of the Ministry and key stakeholders as well as reports relating to health financing and health reform issues in preparation for or subsequent to the MOH's Green Paper on NHIP (1997).

3.5 Data Collection and Analysis: Quantitative Data

Quantitative data collection relied almost exclusively on secondary sources. For statistical data on Jamaica, to be used in the situation analysis and financial modelling of NHI options, materials were derived from official publications and websites of the STATIN,

PIOJ, Bank of Jamaica and MOH. Valuable data especially on household expenditure, poverty levels and health services utilisation and expenditure were also gleaned from annual surveys of living conditions (conducted since 1988) conducted jointly by the STATIN and PIOJ.

The datasets (in most cases over the last 3 decades) covered the following categories of information:

- demographic: size, age and sex distribution, growth rate of population
- macroeconomic and fiscal: size and growth of GDP; real per capita GDP; government revenue including magnitude of statutory deductions; government expenditure including broad sectoral allocations; debt obligations; inflation;
- labour force and earnings: size, participation rate and employment status of the labour force; average wages; membership in national insurance/social security plans and contribution obligations;
- social: absolute and relative levels of poverty; income (consumption) inequality using the Gini coefficient;
- epidemiological: mortality and morbidity patterns;
- health infrastructure: hospital beds; ambulatory clinics; pharmacies; medical and other skilled workers;
- health services utilisation: inpatient and outpatient services; pharmaceuticals; diagnostic services; overseas care;
- health financing and expenditure: sources of finance including taxation, out of pocket spending, private insurance claims paid; aid and grants; destination of financial flows to the different types of public and private health facilities and services.

For comparative data on other DCs and ICs, sources included official publications and websites of the World Bank, IMF; WHO; PAHO; OECD and the ILO.

In some instances, data from secondary sources did not adequately or exactly address the needs of the study. This meant that techniques such as adaptation, re-organisation, consolidation, interpolation, extrapolation and general re-working of the data were sometimes necessary to ensure a 'proper fit' with the requirements of the analysis.

3.6 Data Collection and Analysis: Qualitative Data

Qualitative data collection techniques utilised in the study included semi-structured elite interviews with key policy advisors and technical staff in selected Ministries as well as key non-public sector stakeholders; participant observation over the period of research from 1997—2001 as a member of staff of the MOH and information gathered from discussions and communications with key informants. These techniques were applied in a dynamic rather than isolated or sequential manner. In some instances specific information was sought using a particular technique while in other instances cases information was triangulated with viewpoints emanating from all techniques. In addition, information from application of the qualitative techniques incorporated and informed simultaneously data and perspectives derived from the other methodologies such as the literature review and quantitative analyses.

a) Semi-structured Elite Interviews

Semi-structured elite interviews have been recommended as a valuable tool to secure high quality detailed responses in a manner which encourages response and participation (Patton, 1990; Silverman, 1994; Bowling, 1997). The technique allows the interviewer, using a checklist of questions as a guide, to probe and prompt as necessary by pursuing points to satisfaction on some sensitive or reflective issues. As suggested in the literature, the planning of questions, targeting of respondents, interviewing time and strategies and transcription of responses are critical aspects of the technique. In addition, the role of the interviewer is significant in ensuring relevance of responses, preventing 'capture' by the interviewee and avoiding bias in managing the interview (Patton, 1990; Bowling, 1997).

Elite interviews involving selected key stakeholders were used to derive data on 3 major aspects of the study—the response to the government's proposals on an NHIP as presented in its Green Paper of 1997; the alternative approaches and major components which they would recommend for Jamaica and the criteria they would use to assess the value of an NHIP to the local health system. A checklist of questions and issues to be probed was prepared drawing on information from the literature review and from key informants. (The complete list is presented in Chapter 5).

Experts on stakeholder analysis suggest that selection of key stakeholders should be based on a 'purposive sampling' approach with predetermined criteria for inclusion. These should include individuals and organisations in a position to influence the form, content, timing and implementation of a policy through their professional, political, commercial,

industrial relations or symbolic power in society (Ham and Hill, 1993; Reich, 1994; Walt, 1998; Brugha and Varvasovskzy, 2000). The selected respondents were drawn from the public and private sectors as well as health sector and non-health sector entities. The majority of these were 'self-selected' since, because of their technical competence or organisational influence, they were already included as members of the Steering Committee set up by government in 1998 to review and recommend actions on the 1997 Green Paper NHI proposals. The organizations and positions of some specific respondents from the MOH are shown in Table 3.1.

Table 3.1 Key Stakeholders in the NHIP

Sector	Sub-sector	Stakeholder
Public	Health: Administrative	• Permanent Secretary, Ministry of Health (PS) • Director, Health Reform Unit (DHRU) • Director, National Health Insurance Implementation Unit (DNHI)
	Health: Technical	• Chief Medical Officer (CMO) • Senior Medical Officer, Secondary and Tertiary Care (SMO/STC)
	Finance	• Ministry of Finance (MOF)
	Planning	• Planning Institute of Jamaica (DPIOJ)
	Social Security	• National Insurance Scheme (DNIS)
Professional	Medical	• Medical Association of Jamaica (MAJ)
	Nursing	• Nursing Association of Jamaica (NAJ)
	Health Management	• Jamaica Association of Health Service Executives (JAHSE)
Commercial	Big Business	• Jamaica Employers Federation (JEF)
	Small Business	• Small Business Association of Jamaica (SBAJ)
Insurance	Profit	• Life Insurance Companies Association (LICA)
	Non-profit	• Blue Cross of Jamaica (BCJ)
Labour	Unionised	• Jamaica Confederation of Trade Unions (JCTU)

Source: Author's compilation

Contact was made with key stakeholders—specific incumbents from the MOH and representatives (more than 1 in some cases) of organisations in the Steering Committee--directly during the course of interaction at the workplace or by telephone. Respondents were told about the purpose of interview/discussion and its contribution to and use in the study. Their consent was requested and given verbally. At that time (late 1990's) the issue of written and signed consent from every interviewee for non-medical non-interventionist research was not deemed as critical and as such there was no insistence on it. Some stakeholders requested and were given a copy of the checklisted questions to prepare for the interviews. Some also requested anonymity and that there should be no taping of the

interviews. This was adopted as the norm for all interviews/discussions. Most interviews extended close to 2 hours. A few were short and follow-up discussions directly or by telephone were held to clarify some unfinished points. In addition, extensive use was made of published statements and responses to the government's NHI proposals by 2 stakeholders (MAJ, 1997; LICA, 1998).

Generally, interviews took the form of free-flowing discussions rather than the formal 'question and answer' approach. Timely references to the check-list helped to maintain focus on specific information being sought. Handwritten notes from interviews were organised into broad and later narrower categories for content analysis using predetermined key words and phrases from the checklist of questions and from the literature review. These included 'administration'; 'universal coverage'; 'comprehensive package'; 'copayment'; ''wage-based contribution'; 'choice of insurer'; 'choice of provider'; 'equity'; 'efficiency'; 'subsidies' and 'non-negotiable features'.

b) Participant Observation

Bowling (1997) describes participant observation as the process in which the investigator establishes and sustains a many-sided and relatively long term relationship with a human association in its natural (not experimental or laboratory) setting for the purpose of developing a scientific understanding of that association. It requires the direct involvement of the researcher/observer in the 'systematic and unobtrusive observation' of the actions, activities and interactions of the observed group. Participation could take the form of sitting on committees or working with the team charged with designing, developing or implementing policy. Observation could be 'structured', 'unstructured' or a mix of both and include watching, listening, recording and asking guided questions.

The literature on participant observation suggests that immersion in the activities of the group could provide valuable knowledge and insights through 'grounded knowledge' experiencing interactions from the 'inside' and generally does not depend on a person's willingness to be interviewed or existence of accurate documents or on memory of interviewees. Experts also point out that care should be taken in spending a reasonable length of time with the group to make meaningful observations and in recognizing 'observer bias' through 'selectivity' of interactions (since it is impossible to be everywhere and talk to everyone) and 'hasty interpretations' of actions and statements to fit into preconceived models (Patton, 1990; Silverman, 1993; DePoy and Gitlin, 1994).

The investigator's direct employment with the MOH's Health Reform Unit which had responsibility for designing and implementing various health initiatives including NHI provided an appropriate opportunity and setting for participant observation. Employment preceded PhD studies and, upon commencement, specific approval was sought from the head of the MOH (PS) and of the specific department (Director, Health Reform Unit) to combine work and research as well as to make use of relevant materials from ongoing work-related activities. Consent was given verbally by both heads and key senior officers in the Ministry as well as stakeholders in meetings of the NHI Steering Committee were made aware of the roles of the researcher. Over the period 1997—2001, tasks were assigned which generally permitted enough time and in-depth involvement for the application of the critical aspects of participant observation. These included the various forms of 'structured' and 'unstructured' observation such as access to documentation and participation in meetings as well as discussions with key stakeholders, communications with key informants and general activities of an 'insider' in the technical side of the policy process. In all these, due attention was given to the matter of confidentiality of information and consent/clearance was sought as necessary.

Throughout the period of observation, the use of recording devices such as video and audio tapes was not permitted. This meant exclusive reliance on spontaneous or delayed handwritten and computer processed notes. To avoid being overwhelmed by the mass of data recorded in several volumes of pages and computer files, a coding system was developed for organising, categorizing and cross-referencing materials. This was guided by the checklist of questions with key words and phrases matching those used in the recording of data from the elite interviews and key informants. Support from a research assistant was quite helpful in this cross-referencing task. Content analysis was utilized to organize, merge, examine and make inferences from the data emerging from participant observation and triangulation techniques were applied to test and validate consistency with information from the other qualitative methods.

c) Use of Key Informants

During the course of the field work, there were frequent discussions and communications with key informants on selected issues. Key informants included 4 main groups of persons:

- middle level officers in the MOH and MOF who were present during discussions on NHI at various meetings or dealt with data required for context analysis and financial modelling;

- retired persons from the public service who were familiar with the history of initiatives to strengthen the health sector and to establish NHI in Jamaica;
- lecturers at the nearby University of the West Indies whose research interests and public involvement covered areas such as health reform, health financing, public policy; social protection and political decision making;
- selected private consultants, local and foreign, who were contracted to advise or prepare reports on health services, health financing and poverty in Jamaica.

Key informants were consulted to share, clarify, supplement or validate information on issues related to the following:

- data presented in official publications on macroeconomic, poverty and health matters and the basis for their projections;
- responses of key stakeholders in their discussions on NHI at various forums, comments reported in the media submitted in some cases and in the information provided during the elite interviews;
- detailed rationale for some recommendations in consultant and official reports dealing with various aspects of health reform and health financing.

In many cases, these discussions with key informants led to access to other relevant documents. Key informants were very conscious of the confidential nature of some documents and reports of meetings and were quick to point out the limits of what were quotable and what could only be used as broad statements.

3.7 Stakeholder Analysis and Political Mapping

The techniques of stakeholder analysis and political mapping were utilized to determine (from data collected through application of the qualitative methods of elite interviews, participant observation and key informants described in Section 3.6) 2 separate but inter-related aspects of the study - the relative position of key stakeholders on the government's overall policy and components of NHI as well as their recommendations for an NHI. Following the generally recommended approach to stakeholder analysis and political mapping (Reich, 1994; Walt, 1994; Gilson et al., 1999; Brugha and Varvasovkzy, 2000) key stakeholders were grouped according to their broad organizational or professional affiliation, and their positions in relation to government's proposals on NHI were charted in relation to their levels of support or opposition (high, medium and low) or whether they

could be construed as 'non-mobilised'. Their positions were juxtaposed to the perceived level of influence they exerted on health policymaking (high, medium or low) and an overall 'political map' was prepared to reflect the significance of the position of stakeholder groups for policy decisions and strategic actions by policymakers.

The second critical aspect of the stakeholder analysis was to delineate from their responses what they felt would be the key features of an NHI plan if they were given full rein to design such a plan. The responses were diverse and the words used to describe desired features were not altogether similar or uniform. However, the general themes and concepts were made reasonably clear after a second line of probing with key words and phrases. The data from the qualitative methods, through merging and triangulation, permitted the articulation of a recommended alternative by stakeholders to the NHI proposals of the government. This alternative was included among NHI options for Jamaica and subjected to financial modelling and evaluation alongside the government's proposal and the NHI prototype emerging from reviewing international best practice.

3.8 Derivation of Features of NHI Prototype

In seeking to define NHI options for Jamaica (as stated in the second objective of the study), 2 alternatives emerged from the situation analysis and analysis of data from application of qualitative methodologies. These were the government's Green Paper (1997) proposals for NHI and the alternative recommended by stakeholders. A third alternative was articulated based on the information derived from the literature review on conceptual recommendations of experts and practical experiences with NHI programmes in ICs and DCs. This has been designated as the NHI prototype.

As discussed in Chapter 2, the literature review identified key elements in the design of NHI-type systems (Ron et al., 1990; Normand and Weber, 1994; WHO, 2000; Carrin et al., 2004). These include population coverage, benefits package, administration, mode of financing, providers of services, mode of reimbursement and co-payments. There are also several configurations within each element so that one could have a wide range of theoretically possible NHI options. The emerging best practice for NHI design gleaned from the literature review and deemed applicable to Jamaica contains the following:-

- **Population Coverage:** Various countries have commenced and continue NHI operations with selected population groups such as formal sector workers. However, equity in access and health security for all rather than exclusion have

been cited as one of the principal benefits of NHI. Consequently, universal coverage is identified as one of the core features in the prototype.

- **Package of Benefits:** The range of benefits includes primary and ambulatory care, acute care (inpatient), catastrophic mostly overseas care and long term care. The major recommendation from the best practice is for a comprehensive package of services. In this way high cost hospital based services are not ignored in a primary care package only or the benefits of low cost primary care with 'gatekeeper' functions excluded in a package that concentrates on hospital based care.

- **Administration:** The literature identifies the pros and cons of single or multiple competing pooling agencies to administer the NHI programme. In addition for Jamaica, there is the issue of a new statutory agency or the existing social security agency as the likely administrator of the programme. On review there seems to be a stronger case for a single statutory pooling/purchasing agency through upgrading the existing social security agency especially in view of the small population size and the likely higher cost of several small competing agencies or of a new statutory agency.

- **Mode of Financing:** There seems to be general agreement that financing an NHI should incorporate a mix of government and employer-employee contributions. In terms of the latter, there are arguments for fixed absolute premiums (as used by private insurers) as against fixed percentage of wages and income. The principle of equity in financing suggests that contribution should be based according to ability to pay and this is used to justify the case for a percentage of income-based contributions in the NHI prototype for Jamaica.

- **Providers of Services:** In countries where the public sector is a major but not totally dominant supplier of health services, the private sector plays a critical role in filling gaps and in offering alternatives to public services. Given these historical roles of the private sector and the need to permit choice in the programme, the literature recommends access to public and private providers in the NHI programme.

- **Mode of Reimbursement:** In the assessment of the implications of the various reimbursement methods for cost control, incentives for appropriate behaviour and opportunities for abuse, there seems to be agreement on the relative efficiency of global budgets as against fee for service or capitation payments for providers.

- **Copayment:** This has a definite impact on the containment of demand as well as on the size of the contribution paid by employers, employees and government. On the other hand, the literature clearly indicates that high copayments make access to care inaccessible to low income persons and so negate the expected benefits of prepayment and pooling in an NHI. Based on this rationale, there is provision for small copayments, up to 5% of cost of services, in the NHI prototoype.

3.9 Financial Modelling

Following guidelines suggested by Dunn et al., 1996; Cichon et al., 1999; Plamondon et al., 2002 and GTZ and WHO, 2004)) the financial modelling was conducted in 3 stages:

- specification of relations among variables in the form of estimation equations to reflect the impact on the inflows and outflows of funds in each NHI option;
- application of the estimation equations to the options to determine contributions required by employers-employees (i.e the necessary PAYGR) as well as government;
- sensitivity and scenario analyses of the inputs and outputs of the Financial Model to show the impact of uncertainty and changing the values of key assumptions.

The specification of relations among variables and estimation of equations followed guidelines detailed by Cichon et al., (1999) from a financial viewpoint and Plamondon et al., (2002) from an actuarial perspective. The computational aspects of the modelling used an Excel spreadsheet format. The datasets going into the modelling were prepared based on specific guidelines indicated in SimIns, a health insurance simulation model and software package developed by the GTZ and WHO (2004), and Cichon et al., (1999). These suggested the main modules and variables to be used (economic and demographic; labour force and earnings; health services, utilization and cost of services; administrative and other costs; copayment and contributions).

Supporting information was drawn from Infosure, a software package developed by GTZ (2003) for health insurance evaluation drawing on collected data (qualitative, quantitative and statistical) from reporting countries such as Bulgaria, Indonesia and El Salvador.

a) Key Variables and Estimation Equations for determining Financial Inflows and Outflows in the Options

In quantifying inflows and outflows for each NHI option, the key relations specified and calculated were:

- Revenue of NHI agency/insurance companies;
- Total Contribution Income;
- Average Premium;
- Total Cost of the Benefit Packages;
- Inflows to the Administrative Agency to include any investment/penalty income;
- Impact on the Budget (before and after the programme analyses);
- Utilisation level and costs by different income and age groups.

Equation 1. Revenue to NHI agency/insurance companies:

$R_1 = CY + NY + PY$

R_1 = Revenue

CY = Premium Income

NY = Investment Income

PY = Penalty Income

Equation 2. Contribution Income:

$CY = C.\ p.\ r.$

C = Number of Contributors

p = Average Premium

r = Compliance Rate

Equation 3. Number of contributors:

$C = WS + FSE + ISE + PR$

WS = Wage and Salary earners

FSE = Formal Sector Self-employed

ISE = Informal Sector Self-employed

PR = Pensioners, Retirees

Equation 4. Average Premium:

$p = (U + A + RS + L) / C$

U = Claims / utilisation costs

A = Administrative costs

RS = Reserves

L = Surplus

Equation 5. Compliance rate:

$$r = \left[\frac{PT}{PD} \times 100\right]$$

PT = Premium Collected

PD = Premium Due

Equation 6. Impact on the Budget:

$B^* = B_1 - B_2$

B^* = Net Budget Allocation to Health

B_1 = Budget Allocation Before NHI

B_2 = Budget Allocation After NHI.

b) Application of Inflows and Outflows to Options

Each option was specified in a form that permitted quantification of the key components and the likely impact on the inflow and outflow of funds was estimated.

Financial Inflows: From the viewpoint of the administrative organisation(s) for any option at any point in time the main factors determining the level of inflows are:

- Number of persons in different contribution groups
- Average Contribution Rate or Premium
- Wage Levels
- Income Distribution
- Maximum Insurable Earnings
- Expected Rate of Compliance i.e Amount Collected/Amount Collectible
- Investment and Penalty Income
- Copayments as an income source which goes to health service providers as against the administrators of the NHI option.

Financial Outflows: The main factors affecting cost and outflows were:

- Number of Beneficiaries in each age group
- Cost of the Package
- Administrative Cost/ Loading Factor
- Reserve/Contingency Fund.

The 2 critical output indicators from the modelling are the necessary PAYGR for contributors and the cost to the government.

c) Key Variables for Undertaking the Sensitivity and Scenario Analyses

The pattern and predictability of inflows and outflows in each option are likely to be affected by several key variables either independently or in tandem. As such, it is necessary to specify the mix of variables and assumptions which determined the best, worst and most likely baseline scenarios for each option. The key variables to be adjusted in the Financial Modelling exercise are:

- Changes in the rate of growth of GDP: which affect the ability of government to mobilize resources to meet its contribution obligations and for sustainability of an NHI;
- Changes in employment levels: which determine the number of contributors; earnings base, and share of workers in generating the resources to meet costs;
- Rate of Compliance: which, as the percentage of contributions paid in relation to contributions due, has serious implications for the cash flow of the administrative agency(ies) and their ability to meet obligations to service providers. This is also critical in terms of whether higher administrative costs will be incurred to collect outstanding amounts or whether the State will provide relief funds to avoid a build-up of bad debts. Compliance level was based on the experiences of agencies currently dealing with statutory and other deductions in Jamaica e.g. National Insurance Scheme and National Housing Trust. In addition, compliance data were compared with internationally bench-marked sources.
- Level of Indigence and State Subsidy: which affect the contribution burden of workers and government. Indigence is an issue of definition and development. A strict income related definition may exclude many persons especially the elderly with chronic conditions whose health expenditure as a percentage of their income may be so high that they fall below the poverty line. High rates of unemployment and underemployment could also lead to more persons requiring subsidies from the State to pay their NHI contributions. In addition, there may be cases of free-riders who under-declare incomes to avoid contributing. The larger the size of the indigent population the greater the burden on the State. This could have implications for its overall support for the programme. Adjustments were made to

financial inflows and outflows to reflect varying levels of indigence (with the current poverty line in Jamaica as the base rate) and State subsidy for operations.

- Moral Hazard (Increased Utilisation): which has direct implications for the cost of health services. Health cost, as a composite variable reflecting general inflation as well as increases due to population and service delivery changes, could also be adversely affected by moral hazard either due to the behaviour of members or providers or both. Its variability was modelled to show the likely impact on contribution levels and on subsidies needed from the government to ensure sustainability of the NHI.

- Administrative Costs: which is a key measure of efficiency. The size and rate of change of this variable is a key indicator of the efficiency of the programme especially when compared with the costs of administration in the Ministry of Health and in other private health insurance systems. Variation in its base values sought to show the impact on overall contribution rate and sustainability.

3.10 Development of Criteria for Appraisal of Options

In reviewing the literature to assist in specifying evaluative criteria and indicators, there are four main observations which can be made:

- criteria which have been used have generally been constructed in a way which make their application more relevant to *ex post* as against *ex ante* evaluations;
- criteria have been applied to assess the performance of health systems as against health financing mechanisms *per se*;
- criteria have been designed and used to provide comparative evaluations of health financing mechanisms as against a specific mechanism;
- criteria used have generally tended to be more descriptive than quantitative.

Perhaps a major reason for this emphasis on ex post evaluation lies in the practicability of evaluation - it is easier to evaluate a plan or system after it has been implemented since actual quantitative and qualitative data are more readily available and can brought to bear on assessment of performance against stated goals and objectives. In addition, evaluations of health financing systems generally extend beyond the primary financing functions to include various aspects of the contribution of health financing to overall performance of a country's health system. Given the above, Carrin and James (2004) suggested a methodological approach that defines and measures performance of health financing

systems in relation to Stage 1 activities (e.g. revenue generation, collection, allocation and purchasing functions) and Stage 2 functions (e.g. extent to which the financing system facilitates or frustrates achievement of health system goals such as healthy years gained, distribution of health gains, responsiveness and fairness in financing).

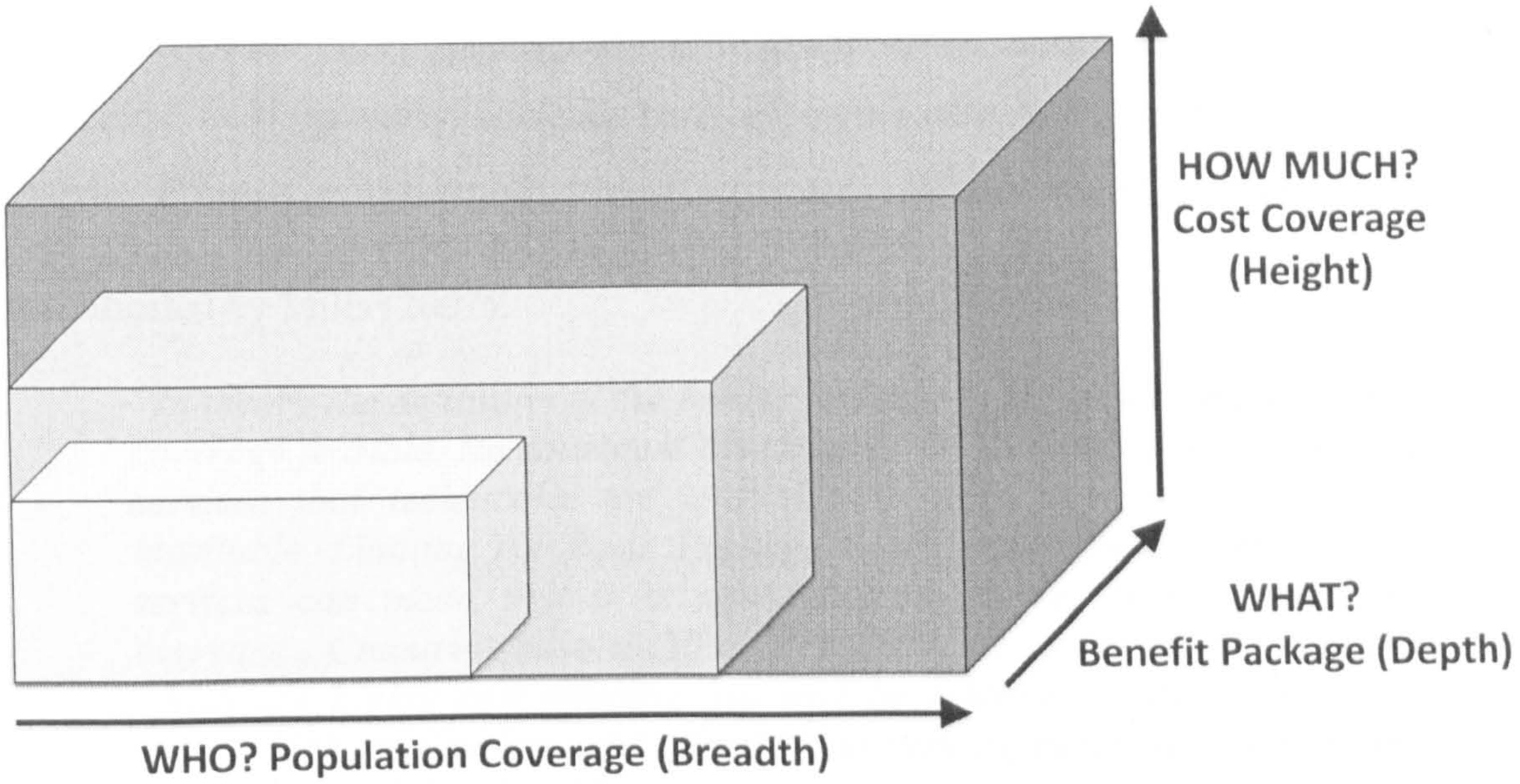
In deriving a set of *ex-ante* evaluative criteria, attention was paid to factors broadly indicated by stakeholders and the government in Jamaica (such as revenue generation, efficiency, equity, choice, public-private collaboration, individual responsibility) as well as those emerging from the literature on health financing and on NHI. The specification of the factors required narrowing down broad conceptual and design objectives into measurable indicators (Zchock, 1979; McPake and Kutzin, 1997; Carrin and James, 2004; Schreyoog et al., 2005; Mills, 2007).

Given the fact that in evaluations, 'objectives' define the measurement of linkages between 'design' and 'performance' (Hogwood and Gunn, 1984; Grindle and Thomas, 1991; WHO, 2000; Gottret and Schieber, 2007) there are close similarities between criteria and indicators which can and are used in *ex-ante* and *ex-post* assessments. However, to a large extent, there has been greater reliance on those factors that may be considered in 'Stage 1" evaluations (Carrin and James, 2004). These include:

- 'Breadth' of coverage or membership in the population;
- Degree of solidarity or segmentation of risk pools;
- 'Depth' of benefit package;
- Equity in access and financing (contributions) and 'height' of cost coverage;
- Efficiency in purchasing and administration;
- Net revenue generation.

Figure 3.2 outlines the inter-relation of 3 key dimensions of coverage –breadth, depth and height.

Figure 3.2 Dimensions of Coverage: Breadth, Depth and Height



Source: Adapted from Schreyogg et al. (2005)

i) Breadth of Coverage:

As a general rule and policy objective, health financing systems which emphasise universal coverage (membership) and access are deemed to be better performing than those which only offer partial coverage (Normand and Weber, 1994; Kutzin, 2001; Schreyoog et al., 2005; Mills, 2007; Gottret and Schieber, 2007). A plan or option which does not provide for universal coverage at the outset or does so on a phased basis often leads to exclusion or less health and financial protection of vulnerable groups. In measuring this factor, the key indicator is the percentage of the population eligible for membership in the plan/option at the outset.

ii) Solidarity in risk pooling:

There seems to be general agreement that a single management agency is better at risk pooling, raising revenue, purchasing, reducing adverse selection and ensuring solidarity and cross subsidy among risk and income groups. The alternative is having multiple payers where there is segmentation of risk pools, shifting of high risk to public sector agencies and the need for strict regulations pertaining to risk equalisation funds and non-denial of health insurance coverage to avoid 'cream-skimming'. Risk adjusters can be ex ante (age, sex, income, employment status, prior year expenditure, prior utilization) or ex post (broadly based on experience of different insurers with surplus or deficits in operations).

iii) Depth of benefit package:

The choice of the benefit package is a critical part of the design involving considerations of medical need/necessity; adequate care, expedient care, safety, cost, budgetary impact analysis, efficacy, effectiveness, cost-effectiveness and stakeholder acceptability.

As indicated by Mills (2007):

> *'In theory the definition of the benefit package is key in making universal coverage feasible. No country is able to provide universal coverage for all services that technically are available so some type of rationing is inevitable. Limiting the Basic Package to a specific set of high priority services can mean that it is affordable to provide these services to everyone...Countries have a difficult choice between including...services which are highly cost effective but may be relatively cheap to buy and those which may be less cost effective but very expensive to purchase for those who need them' (p.11).*

Since the poor and middle classes generally suffer from the same health conditions as the rich and are less able to afford high cost necessary services (without further impoverishment), it may be more responsive and acceptable to have a broad rather than limited benefit package.

iv) Equity in access and financing:

Equity is defined in terms of access to services and fairness in the burden of financing. In the case of the former, it means that all persons who are plan members or cardholders have similar entitlements to services in the benefit package. There are two concerns which arise in this context - firstly, for several reasons (such as late decision to join, time period to marketing and registration to be completed, non-compliance) it is unlikely that everyone will be a member of the plan or a cardholder in the first or even second year of implementation. This means that within the plan, equity of access is achievable but for non-members there may be some level of differentiation in access to services.

Secondly, the benefit package in each option contains a particular set of services. For services excluded from the package there will also be differentiation in access. In evaluating the options, attention will be focused on equity within the plan. Issues of equity in the wider society will be discussed in Chapter 8.

In terms of equity in the burden of financing, there were three key factors which were considered:

- fixing contributions as a percentage of earnings (rather than as flat absolute amounts irrespective of earnings) to enhance progressivity in financing (Wagstaff, 1993; 2007; McIntyre and Mooney, 2007);
- emphasis on more prepayment than copayment or out of pocket payments since the latter, despite their role in rationing and deterring moral hazard, would have harsher effects on low income persons. (This is defined as 'height' of coverage);
- subsidies to cover the contribution requirements of the poor.

v) Efficiency in purchasing and administration:

Efficiency in purchasing and administration may be more readily achieved in single rather than multiple pooling agencies (Anderson and Hussey, 2004; Kwon, 2006). The key factors to be considered in efficient administrations are the percentage of resources/income spent on management as against direct health services and the choice of provider payment mechanisms. In respect of the latter, there seems to be general agreement that prospective systems are better than those emphasizing retrospective payments and consequently, capitation payments and global budgets are preferred to fee for service mechanisms.

vi) Net Revenue Generation:

This is defined as the amount of new or additional funds available for health services and can be expressed in terms of the following:

$$NR = (C) - (A + Re)$$

Where NR= Net Revenue

C= Contribution income

A= Administrative costs; and

Re= Reserves.

For a more balanced assessment, there are 2 additional indicators to be included to reflect the outcomes of the financial modelling. These are the resulting PAYGR and the percentage share of government's contribution to the funding requirements of each option. The importance of the former (PAYGR) lies in the extent to which it is viewed as a burden, new or modified, by population groups compared to currently imposed statutory deductions. In the case of the latter, the importance lies in the extent to which the fiscal burden of committed government contribution is increased or decreased in each NHI option compared to its current budgetary allocations to the health sector.

The overall ranking of NHI options emerges from the scoring method used in relation to the indicators and criteria. To reflect the impact of weighting, 2 rounds of scoring will be used:

1) in the unweighted approach, it is assumed that no special significance was attached to each criterion and indicator i.e., they were 'equally weighted'. For this, the scoring was simply based on assessing and ranking each of the 3 options on whether it could be placed as performing first, second or third in relation to each criterion and indicator. The sum of the placements was used to determine the overall rank of the option, i.e., the lower the overall score, the higher placed the option. Since there were 8 criteria and 12 associated indicators used and weighted equally (i.e., each was assigned a unitary value), this meant that best likely attainable score was 12.

2) in the weighted approach, the ranking of criteria by stakeholders (when asked a specific question on this) was used. Since net revenue, equity and efficiency were viewed by stakeholders as the most important criteria, a similar weighting of 3 was applied to each of these with the other criteria receiving a weighting of 1. It should be noted that, in the scoring, the weighting was applied to the criteria not the indicators since the latter were not specified by stakeholders. As in the unweighted method (above), the ranking of options according to each criteria i.e., first, second or third was applied so the combination of the placement score and weight determined the overall score and rank of the options. With weighting of the above 3 criteria (and the same 12 associated indicators), the best likely attainable score was 24.

Table 3.2 shows the evaluative framework containing the mix of criteria and indicators. These indicators were used to provide a first level evaluation of the data on the NHI options derived from the Financial Modelling. Bearing in mind that not all the relevant factors and considerations for making a policy choice could be encapsulated in these quantitative indicators, the discussion in Chapter 7 explores some of the other policy and implementation issues in relation to the options.

Table 3.2 Evaluative Framework of Criteria and Ranking of NHI Options

Criteria / Indicators	NHI OPTIONS		
	Option 1	Option 2	Option 3
1. Breadth of coverage			
a) % population eligible for membership at outset			
2. Risk pooling			
a) Single risk pool			
3. Depth of benefit package			
a) Comprehensive			
b) Inclusion of catastrophic care			
4. Equity in financing			
a) % earnings vs. flat rate			
b) % copayment-prepayment			
c) Subsidies for poor			
5. Efficiency			
a) % cost of administration			
b) Use of capitation and global budget			
6. Revenue generation			
a) Net revenue			
7. PAYGR			
8. % share of contribution by government			
OVERALL SCORE			
RANK			

Source: Author's representation

3.11 Comments on Quality of Data

In terms of the overall quality of the data collected and used in the analysis, there are some observations which can be made in respect of the 3 main data sources: the literature review; collection of quantitative data and derivation of qualitative data.

- **Literature review:** as far as possible every effort was made to conduct a comprehensive search for the most relevant and up to date mix of articles, books, and reports. The literature review covered the period since 1980. Extensive use was made of electronic databases to generate readings. Some of these have inadequacies such as coverage of journals, indexing of information and misleading keywords (Muir Gray, 1997; Bowling, 1997). In addition, websites and internet sources also have limitations in terms of coverage especially of the grey literature. On the other hand, familiarity with and direct involvement in

Jamaica, meant that coverage of materials—published and unpublished—on the local context, health and health financing was quite detailed.

- **Quantitative data:** extensive use was made of official publications on the macroeconomic, social and health context in Jamaica. For information on other ICs and DCs, much of the data was derived from official publications of international organizations such as the WHO, PAHO, OECD, IMF and World Bank. For specifics on Jamaica, efforts were made to triangulate data by comparing information across national and international sources. Perhaps the main weakness of the Jamaica data is in terms of coverage of materials on health services and financing in the private sector. This was dealt with through systematic use of annual survey data and information from private insurers.

- **Qualitative data:** The 3 pronged strategy of elite interviews, key informants and participant observation meant that data gaps in one method were more likely to be picked up in the other methods. This was borne out in the dynamic application of the methods so that information from one was integrated with the others. In this way some of the cited weaknesses in each method were reduced through triangulation. This was particularly helpful since participant observation may have led to some selective focus or ignoring of some interactions because of familiarity or recall bias in recording data. Similarly, key informants may only have offered information and documents which they felt were relevant while omitting some other valuable sources of information. Elite interviews may have been biased in some aspects where some interviewees felt it was more appropriate not to be too critical of the announced government policy on NHI. Overall, perceived or manifest weaknesses in one method were counter-balanced by varied perspectives from others resulting in a more comprehensive and reliable database.

During the period of participatory research, it should be noted that the MOH as employer did not seek to define data content, interpretation or analysis (other than the normal insistence on no quotations or references to official confidential documents) nor did it seek feedback on the research. General objectivity was also maintained and bias minimised in that the bulk of the collation and analysis of data took place after the researcher had left employment at the MOH.

CHAPTER 4: SITUATION ANALYSIS OF JAMAICA

4.1 Overview of Key Areas to be Examined

As a small, lower middle-income developing country, Jamaica has made significant progress in improving the health of its population. The extent of health improvements can be gauged by comparing some key indicators in 2006 and the 1950's - life expectancy 73 vs. 58 years; crude birth rate 17 vs. 44 per 1000; crude death rate 5.7 vs. 16 per 1000 and infant mortality rate 19.2 vs. 40 per 1000 live births. In addition, compared to other developing countries, Jamaica's health indicators appear quite favourable and the country has been included among those in the WHO's 'mortality stratum B' - low child and low adult mortality (WHO, 2004).

Health progress, however, has also brought new service delivery challenges typical of countries in an advanced stage of the epidemiological transition and even sharper financial management challenges typical of countries faced with the rising costs of health services alongside severely constrained public funding resources.

Jamaica has a mixed health system with the public sector as a major provider and financier of health services (reflecting both its long British colonial heritage and *dirigiste* State policies since independence in 1962) co-existing with a large private sector especially in the provision of ambulatory care services (reflecting strong ideological influences from its close neighbour, the United States). Protracted economic and fiscal problems since the mid-1970's alongside changing demographic and epidemiological profiles placed serious pressures on the ability of the health system to sustain improvements in the health status of the population. Despite efforts at sectoral restructuring, rationalisation and reform by successive governments, issues of inequity in access, underfunding of services, cost escalation, inefficient allocation of resources and popular expectations of health care driven by North American standards made the health system a major source of complaint and frustration (Abel-Smith, 1989; Cumper, 1993; Armstrong, 1994; Ministry of Health, 1997; DAH Consulting Inc, 2004).

This Chapter provides a situation analysis of the Jamaican health system, drawing largely from secondary data sources and interviews with stakeholders. It discusses the contextual framework for understanding the policy-making environment, challenges, expectations and concerns with respect to the articulation of an NHIP. It describes and discusses key aspects of the following areas:

- general demographic patterns and trends as reflected in the size, age-sex-geographical distribution and growth rate of the population;
- main features of the organisation and delivery of health services with emphasis on the relative roles and significance of public and private sectors;
- health status of the population, burden of disease and the patterns of demand and utilization of health services;
- major macroeconomic developments and trends over the last 3 decades and the influence of these on fiscal space, employment, levels of poverty and social safety net activities (which are closely linked to overall health status through resources for and access to health services);
- the pattern of financing of health services and policy concerns with respect to the relative roles of various health financing mechanisms (taxes, private health insurance premiums, out of pocket spending and grants-charitable funds);
- issues of equity in the health sector especially in relation to health status, health seeking behaviour and health expenditure;
- major goals, components and specific financing concerns of the 1997-2005 Heath Reform Programme (HRP);
- the health policy-making process and the opportunities for key stakeholders to influence changes in the system.

The Chapter concludes by distilling from the situation analysis the main linkages between developments and dilemmas in the macroeconomy and health system to identify issues for conceptualization and design of an NHIP for Jamaica.

4.2 The Demographic Context

Jamaica, with noticeable shifts in the rate of growth and age structure of the population, may be described as being in the 'intermediate stage of the demographic transition' (PIOJ, 2006). Appendix 4.1a provides data on some key aspects of Jamaica's demography. With an estimated 2.67 million residents in 2006, Jamaica's population is much lower than projections made in the 1960's. Economic progress (albeit uneven), investments in health and other welfare-inducing initiatives alongside vigorous and extensive efforts to provide family planning services (access to contraceptives and to general antenatal and post-natal services) have led to declining average annual growth rates in the population from about 1.8% in the 1960's to 0.5% in the first half of the current decade (Statistical Institute of Jamaica Statistical Digest...various years).

The main determinants of population growth - birth, death and fertility rates - continue to show a declining trend. By 2006, the crude birth rate had fallen to 17 per 1000; crude death rate to 5.7 per 1000 and total fertility rate to 2.5 children per female of child-bearing age. Net external movements of the population continue to be negative and exert downward pressures on population growth. Permanent emigration, which was a major factor in dampening population growth in the 1960's and 1970's, slowed down significantly since the 1980's due to tightening of immigration policies in the main recipient countries --USA, UK and Canada. On the other hand, immigration (returning residents, refugees, deportees) fluctuated but remained at relatively low levels. Overall, with falling birth, death and fertility rates it is expected that reduced out-migration opportunities and changes in immigration will not have any significant impact on the pattern of slow population growth over the medium to long term (PIOJ, 2006).

As indicated in Appendix 4.1a, the sex ratio shows the population almost evenly divided with 49.3% males and 50.7% females in 2006 The age mix indicates the relative decline of the child population (0—14 years) accounting for about 29% of residents in 2006 (compared to 40% in the 1970's) and the marked rise in the elderly population i.e., persons over 65 years, to about 8% of the total population (compared to 5% in the 1970's). This proportion of the over 65 population is expected to reach 10% in 2010 and 20% by 2030 while the decline in the under 14 population is expected to continue at a faster rate. Overall, this means that the dependency ratio of 58 in 2006 is projected to fall to the low 50's in the medium term (PIOJ's Economic and Social Survey, 2006).

There are 2 major implications for health services and health financing resulting from these population trends. Firstly, one can expect a general increase in demand for health services and an even faster increase in the demand for particular services such as drugs, diagnostics, inpatient services and long-term care relevant to the growing elderly population. Secondly, the falling age dependency ratio and the trend for segments of the over 65 population to remain employed for longer periods to sustain income levels will affect the size and distribution of the burden of financing health services.

In terms of spatial distribution, migration from rural areas to urban centres has been and is a continuing feature of the social environment. In 2006 the rural – urban mix was about 49% to 51% compared to 65% to 35% in the 1950's. Spatial distribution of population has implications for the location of health facilities, equity in access to services, financing to maintain the health services delivery network and overall efficiency in the allocation of infrastructure and human resources.

4.3 Features of the Organisation and Delivery of Health Services

Similar to other English-speaking Caribbean countries (Caribbean Commission on Health and Development, 2005), the health sector in Jamaica is comprised of a mix of public and private actors who, following Mills' categorization (2001), compete, complement, contract, co-exist and collaborate with each other to provide health services to the public. Table 4.1 gives an overview of the relative roles and services/activities - public health, ambulatory and inpatient care, pharmaceutical and diagnostic services, research and training - with respect to each sector as well as the type of financing mechanism associated with these activities. (The dominant actor in terms of provision of services and the chief source of financing is shown first).

Except for public health action and research which have been and still are primarily dealt with by the public sector, general curative and palliative services and training are offered by public and private facilities. In 2006, the public sector was the dominant provider of inpatient care and the private sector of ambulatory services. (The financing mechanisms and overall financing of the sector are considered in more detail in Section 4.5).

a) The Public Sector

Although some health activities are undertaken by the Ministry of Labour (occupational health and safety); Ministry of Local Government (some vector control and public health functions); and Ministry of Education (training), the majority of activities in the public health sector are undertaken by the Ministry of Health (MOH).

For personal health care services in 2006, the MOH owns and operates 17 general hospitals (18 if the quasi-public University Hospital is included) offering varying levels of emergency, curative and rehabilitative services; 6 specialist referral hospitals (maternity; child care; cancer treatment; rehabilitation; mental health and respiratory disorders) as well as 345 health centres (offering varying levels of preventive and curative services). The combined bed capacity in the public sector is about 5000 beds (or 1.9 beds per 1000 persons) representing about 95% of the total inpatient beds in Jamaica. Pharmaceutical and diagnostic services are available at the hospitals and at some of the health centres. In addition, the National Public Health Laboratory serves as the overall referral centre for laboratory services.

Table 4.1 Pattern of Health Provision and Financing, 2006

Activities	Providers	Financing	Comments
1. Public Health			
• Environmental & Vector Control	Public	Budget	MOH responsibility shared with Local Government
• Health Education & Promotion	Public; Private	Budget; Grants & donations;	MOH & RHAs are prominent; NGOs play important supportive role
• Regulations, Standards	Public; Private	Budget; Professional fees	MOH responsibility; Professional councils also have key role
• Surveillance	Public	Budget	MOH responsibility
• Occupational Health & Safety	Public	Budget	MOH & Ministry of Labour share responsibility
2. Ambulatory Care (primary, specialist and outpatient)			
• Maternal & child health	Public; Private	Budget; OOP; PHI	Services at public facilities & private clinics
• Family Planning	Public; Private	Budget; OOP	Services at public facilities & private clinics
• Curative	Private; Public	OOP; Budget; PHI	Services at public facilities (health centres & hospitals) & private clinics
• Psychiatric	Public; Private	Budget; OOP	Services at public facilities & private clinics
• Dental & Optical	Private; Public	OOP; PHI; Budget	Services at private clinics & public facilities
3. Inpatient Care			
• Secondary & tertiary care locally	Public; Private	Budget; OOP; PHI	Services at public & private hospitals
• Secondary & tertiary care abroad	Private;	OOP; PHI; Donations; Budget	Services at private hospitals in US, UK and public hospitals in Cuba
4. Pharmaceuticals	Private; Public	OOP; PHI; Budget	Services at private & public pharmacies
5. Diagnostic & Imaging Services	Private; Public	OOP; PHI; Budget	Services at private & public centres
6. Research			
• Health Systems & Services	Public	Budget; Grants	Ongoing & commissioned studies
• Medical & Clinical	University; Public; Private	Grants	Ongoing & project specific
7. Training	Public; Private	Budget; OOP; Grants	Most training is done locally.

Notes: OOP refers to out of pocket payments; PHI to private health insurance
Source: Compiled by Author

Until 1997, the management and delivery of health services in the various facilities was coordinated and handled from the Head Office in the capital city. However, with the promulgation of the National Health Services Act of 1997, the functions of the MOH were decentralised with the Head Office being in charge of policy, planning, standards, regulations and purchasing services while four Regional Health Authorities (RHA's) were made responsible for the management and delivery of health services. In addition, two other semi-autonomous bodies were created—the Health Corporation Ltd with responsibility for the procurement and supply of essential drugs and medical sundries and

the Health Facilities Maintenance Unit for maintenance of equipment and infrastructure in the public sector.

Public health facilities and personnel are spread throughout the country with each of the 13 parishes (the political/administrative units) having at least 1 general hospital and a mix of health centres. However, the cluster of secondary-tertiary facilities around the two urban centres--one in the Northwest and the other in the Southeast of the island-- has meant that some facilities generally tended to be over-utilised while others in the rural areas were under-utilised. This has had several implications for the flow of budgetary allocations, availability of services, professional staff and for relations between the Head Office and the RHA's.

b) The Private Sector

The private sector comprises a mix of individuals and institutions offering a range of health services. General practitioners, specialists, dentists and other allied health practitioners offer curative and other services either in solo or group practice with the former being more common. Generally, these practices are clustered in the urban centres and are frequented mostly by the non-poor segments of the population although utilisation by the poorer groups is also quite high especially in view of the non-availability of or long waiting time for similar services in the public sector. Private companies supply the majority of pharmaceutical and diagnostic (laboratory and imaging) services in Jamaica and it has become almost the norm for persons who visit public facilities for ambulatory care to be given prescriptions or lists of required laboratory tests which can more frequently be filled or conducted in the private sector.

For inpatient care, there are 7 small urban-based private hospitals with a total bed capacity of about 240 or 5% of the total inpatient beds. These hospitals offer a limited range of specialties and complicated cases are usually sent to the larger public hospitals. Except for maternity cases, occupancy levels are generally less than 40% in the private hospitals. Private hospitals have had mixed fortunes over the period 1980 to 2005 and some, faced with acute financial difficulties, have had to scale down beds and services and approach the Ministry of Finance for special consideration in delaying payments of statutory deductions.

Several non-governmental and faith-based organisations, despite limited budgets and facilities, also offer a mix of health education, diagnostic and social support services. For example, the Cancer Society, Diabetes and Heart Associations; Jamaica HIV-AIDS

Society and Sickle Cell Support Club undertake outreach, education and testing services. They also maintain registries of persons with the particular conditions and provide counselling to those concerned about or afflicted with the respective conditions. In addition to these local groups, there are also some international organizations which provide a mix of direct and indirect services (through funding other local agencies). These include UNICEF, UNFPA, UNDP, PAHO and Save the Children Fund.

c) Overseas Care

Both the public and private sectors have certain limitations in terms of tertiary care and are forced to refer patients for specialist overseas care from time to time. Patients are normally referred to the nearest facilities in the United States with smaller numbers sent to Canada, Cuba and the UK. Financing of these services are covered by a mix of budgetary grants (for public patients); private health insurance, charitable funds (from non-governmental organizations and public appeals) and own funds by the patients.

Limitations of funds alongside with incremental development of tertiary and specialist services locally led to a significant decline in the number of overseas referrals from the public sector since the 1980's. With the demand for funds for overseas 'specialist and catastrophic' cases exceeding supply, public officials have had to develop formal structured mechanisms to ration funds for 'partial' or 'full' coverage of associated costs. On the other hand, private insurers, in response to growing demand from policyholders and in contractual agreements with international provider network agencies, have made strategic use of authorisations of access to overseas care for 'specialist and catastrophic cases' in targeting clients, benefit packages and premiums.

In addition to these complicated cases which are referred abroad, many of the non-poor groups in Jamaica make use of overseas care for routine matters partly as a result of confidentiality, dissatisfaction with local health services; the close proximity of such services in the United States and resources-support from relatives residing in these locations.

d) Private Practice

In common with many countries which followed the British tradition, senior doctors in the public service are usually allowed to have private practice i.e. to work in the public and private sectors simultaneously and in some cases to use public facilities for treating their private patients. Specialists in the public hospitals as well as general practitioners who serve as district medical officers in health centres are granted this privilege which

was seen as a means of supplementing their incomes while still keeping them on staff in the public sector (World Bank, 1994; discussions with ex-Chief Medical Officer, 2000).

This policy of dual practice has become a principal source of conflict over the years and more so with the advent of the RHA's which have responsibility for more effective management and delivery of health services in keeping with targets set out in Service Level Agreements with the Head Office. RHAs expressed concerns over the amount of time spent by privileged physicians in private practice compared to public duties; the spillover effects of their absence on the availability and quality of care and on the additional burden on other staff; the demonstration effects on other non-privileged physicians and allied health professionals such as pharmacists, laboratory technicians and physiotherapists (some of whom undertook private assignments during normal working hours) and of patient complaints of under the table payments in public facilities. (Ensor, 1999 indicated that similar concerns exist in the health systems of some eastern and central European countries).

Private practice emerged as a major area of concern in discussions on the design of NHI by those benefiting from having these privileges and groups who felt these privileges would diminish promises of securing equity in access in NHI.

4.4 Health Status, Burden of Disease and the Demand for Health Services

Inter-temporal and international comparisons suggest that Jamaica has made marked progress in improving the health of the population (WHO, 1995 and 2005). Appendix 4.1b provides data on select indicators of health status and access in Jamaica in 2006. With the elimination or control of most infectious communicable diseases (except HIV/AIDS and periodic outbreaks of gastro-enteritis and dengue fever), measures such as infant and child mortality rates (19.2 and 16.2 per 1000 respectively) and maternal mortality rate (106.2 per 100,000) along with population with access to safe water (86%) and to sanitary facilities (95%) broadly indicate some of the health improvements compared to similar indicators 2 or 3 times worse in the 1950's. Qualitative changes also seem to have been realized with the WHO estimating Jamaica's healthy life expectancy to be 65.1 years in 2003 (WHO, 2004).

Analysts have pointed to the interaction of sustained health investments (especially with the adoption of primary health care strategies since the early 1970's); economic growth and other welfare-enhancing policies in terms of access to safe water, sanitation and

nutrition as the key contributory factors to the health gains achieved by the country (Abel-Smith, 1989; Cumper, 1991; PAHO, 2002, discussions with CMO, 2000; MOH, 2005).

Table 4.2 provides data on the broad epidemiological profile focusing on the leading causes of visits to health centres and hospitals and of mortality. (It should be noted that the data refer to public facilities only although key informants suggest that the pattern is similar if data on the private sector were included). In terms of primary care visits most persons sought treatment for wounds (dressings); hypertension, respiratory tract infections, STD's, skin diseases, and diabetes. At hospitals, pregnancy and related conditions, injuries/poisoning, respiratory and cardiovascular diseases and genito-urinary disorders were the most common conditions treated in 2005. Among the leading causes of mortality in 2004 (latest year based on data compiled by the Registrar-General's Department and Ministry of Health) were cerebrovascular conditions, neoplasms, diabetes, diseases of the respiratory system and heart disease. Deaths due to HIV-AIDS and trauma were also major concerns especially in their impact on the younger, working age population and on prospects for social and economic development of the country.

Table 4.2 Leading Causes of Deaths, Visits, Hospitalisations in Public Facilities, 2005

Visits to Health Centres	**Hospitalisation**	**Deaths**
Dressings (for wounds/trauma)	Obstetrics	Cerebrovascular diseases
Hypertension	Accidents and Injuries	Neoplasms
Respiratory tract diseases	Diseases-Respiratory system	Diabetes
Sexually Transmitted Diseases	Diseases—Circulatory system	Diseases—respiratory system
Skin diseases	Diseases—Digestive system	Ischaemic heart disease
Diabetes	Nutrition-Endocrine conditions	Trauma: homicides, injuries
Lacerations and burns	Diseases—Genitourinary system	HIV-AIDS
Gastroenteritis	Neoplasms	Perinatal conditions
Musculoskeletal disorders	Infectious and parasitic diseases	Diseases-Genitourinary system
Leg ulcers	Perinatal conditions	Neuro-psychiatric diseases

Source: Author's tabulations based on data reported by The Ministry of Health (2005)

The latest systematic analysis of the burden of disease in Jamaica was conducted in 1994 by the Harvard Center for Population and Development Studies for the World Bank (World Bank, 1994). Using Disability Adjusted Life Years (DALYs) as the measure, it came up with a profile which showed the predominance of chronic non-communicable conditions (60%) followed by injuries and accidents (24%) and communicable diseases (16%). As shown in Table 4.3 women lost more DALY's due to communicable (21%) and non-communicable conditions (70%) than men (12% and 53% respectively). On the

other hand, men suffered more as a result of accidents, injuries and violence (35%) than women (10%). Overall, the data showed that Jamaica lost 120 DALY's per 1000 persons in 1990. This compared favourably with its neighbours in Latin America and the Caribbean (where on average 233 DALY's per 1000 persons were lost) and with the Established Market Economies as a group (where 117 DALY's per 1000 were lost).

Table 4.3 Jamaica: Burden of Disease by Sex and Cause (percent by rows)

Sex and Outcome	Communicable	Noncommunicable	Injuries-Accidents	DALYs lost/1000
MALE	**12.3**	**53.0**	**34.7**	**--**
a) Premature death	16.8	53.1	30.1	--
b) Disability	7.4	52.9	39.6	--
FEMALE	**20.6**	**69.8**	**9.6**	**--**
a) Premature death	20.1	73.7	6.2	--
b) Disability	21.2	65.6	13.2	--
ALL JAMAICA	**16.0**	**60.0**	**24.0**	**120**
Latin America and Caribbean	42.0	43.0	15.0	233
Established Market Economies	10.0	78.0	12.0	117

Source: Compiled by author based on data from World Bank (1993, 1994).

An indication of self-assessed health status, health-seeking behaviour, sources of care and incidence of health insurance is provided in Appendix 4.2. Based on estimates from the annual Survey of Living Conditions, the data revealed that over the period 1992—2006 approximately 11.4 % (period average) of respondents reported an illness or injury which lasted for about 10.3 days. In terms of seeking care for the reported illness/injury, about 59.6% visited a health facility or health practitioner with a larger percentage of persons choosing to access care at private health facilities (58.4%) than public facilities (35.6%). A small percentage of persons (5.9%) visited both public and private facilities.

For prescription drugs and medication, the majority of persons went to private facilities (about 77%) as against public facilities (about 19%). In terms of hospitalisation a larger percentage of persons were inpatients of public hospitals (6.6 %) than of private hospitals (0.8%). Overall, about 68% of those seeking care first presented themselves at primary care facilities (public health centres and clinics of private practitioners) while 26% sought initial care from hospital outpatient departments.

In terms of health insurance coverage, the percentage of respondents answering positive varied from a low of 8.8% in 1994 2006 to a peak of 18.4% in 2006 with a period average of about 12%.

The evidence on health seeking behaviour, utilization and sources of care highlighted certain key aspects of the health system in Jamaica. These include:

- some measure of under-utilisation of services given the gap between the percentage of those reporting an illness/injury (11%) and those actually seeking care (59%). While lack of action in terms of seeking care may be due to perceptions of severity of one's illness and use of home remedies, there were also access factors to be borne in mind such as financial considerations, trade-offs between seeking health care and spending on other goods/services as well as expectations of availability/quality of services.
- the dominance of the private sector as the preferred provider of primary care services and prescription drugs (despite a large network of public health centres). The predominance of chronic non-communicable conditions in the population (which affects all groups but is higher among the poor) meant that there was a high derived demand for periodic check-up visits, diagnostic and pharmaceutical services. Data from MOH and Survey of Living Conditions Reports suggested that about 80% of visits lead to prescriptions for medication and that prescriptions were for more than one drug in the majority of cases. In addition, about 50% of visits led to diagnostic tests (laboratory or imaging).
- the dominance of the public sector in terms of hospital-based services with about 95% of the bed capacity and the mix of skills to treat with the majority of cases needing secondary care.
- the relatively small percentage of the population with private health insurance (average of 12% over the period 1992-2006)—this had implications for equity in utilization of services and for considerations of the scope of NHI in extending financial protection through its prepayment approach given the high levels of utilization of private health providers (Gertler and Sturm, 1997) and of retrospective out of pocket payments for these services.

Specific institutional data on the magnitude of health services utilization were more readily available from the public health sector. As shown in Appendix 4.3, the pattern of utilization of selected services over the 10-year period 1996—2005 revealed that:

- hospital discharges grew from 145,700 cases to 174,200 - an increase of 20%;
- average length of stay was variable within a range of 4.9 to 6.8 days with a period average of about 5.9 days;
- the number of inpatient days per capita was generally stable at about 0.33 days between 1996 and 2000 but rose between 2001-2005 to about 0.44 days—the period average was 0.39 days;
- visits to outpatient and casualty departments increased from 0.38 per capita to 0.48 in 2003 and 2004 with a period average of 0.44;
- visits to primary care centres for both curative and preventive (maternal, child and reproductive health) services declined from 0.69 per capita to 0.57 – this represented a decline of 17% giving a period average of 0.64 visits;.
- increased utilization of pharmaceutical, radiography and diagnostic services. For pharmaceuticals, prescription items per capita almost doubled from 0.37 to 0.68 giving a period average of 0.55; for radiography services, exams per capita grew from 0.07 to 0.09 for a period average of 0.08; and for diagnostic services, exams per capita more than doubled from 0.32 to 0.75 giving a period average of 0.54.

The observed pattern of utilization of health services in the public sector reflected the interaction of certain key factors. The increase in the levels of hospitalisation (much higher than population growth rates) may have been due to a mix of the following - the growing incidence of trauma related cases (violence and accidents) and complications of chronic diseases; increased investment in hospital as against health centre services by the RHAs and the declining availability of inpatient services in private hospitals (DAH Consulting Inc, 2004; Ministry of Health, 2005).

In the case of pharmaceuticals, laboratory and imaging services, improvements in the availability and quality of services in the public sector since decentralization in 1997 allied with substantially higher prices of similar services in the private sector may have been the main contributory factors (DAH Consulting Inc, 2004).

4.5 Macrocconomic Developments and Health Implications

After registering average annual growth rates in real terms of about 5.5% in the 1960's the Jamaican economy has been undergoing a prolonged period of slow growth since the 1970's. Real growth rates averaged less than 1% per annum in the 1970's; just about 1%

in the 1980's and 1990's and about 1.6% in the years 2001-2006. Over this prolonged period from 1970—2006 there have been more years of negative or low growth rates (less than 1.0%) than medium to high positive rates despite the strenuous application of stabilisation and structural adjustment programmes by the IMF and World Bank respectively from 1977—1995 (Boyd, 1988; Witter and Anderson, 1991; World Bank, 1996; Planning Institute of Jamaica, 2007). When adjustments were made for population growth, the data showed that real income per capita increased marginally over the long term, 1970-2006.

Appendix 4.4 presents data on the performance of the economy over the period 1996—2006. Except for 2003 (2.3%) and 2006 (2.5%) growth rates have been quite modest with notable declines in 1997 and 1998 (-1.1% and –1.2% respectively). Measured in per capita terms real GDP in 2006 (J$91,500) was just above the J$89,200 estimated in 1996, an increase of 2.3% over the 11-year period.

Economic performance has been largely influenced by developments in key sectors. Despite consistently positive growth in the tourism sector, the other major sectors—bauxite and alumina, agriculture (sugar, bananas, coffee and non-traditional crops) and manufacturing (light industries, food processing and textiles)—have been characterised by generally weak performance. Liberalized local markets (as part of structural adjustment measures) since the mid-1980's led to intense competition from imports in the commodity and goods market and successes in the tourism and related services sub-sectors have not been enough to generate widespread growth in the economy. Remittances, since 2000, have replaced tourism as the largest source of foreign exchange earnings and it was estimated in the 2005 Survey of Living Conditions (STATIN and PIOJ, 2006) that 54% of households received remittances in that year.

Weak economic growth resulted in severe fiscal constraints. Revenue sources - largely from income taxes (25% of personal earnings and 33% corporate); consumption duties (15% value added tax which was increased to 17.5% in 2003); trade taxes (mixed range of import duties/tariffs from 0%--30% in keeping with membership obligations under the World Trade Organisation and Caribbean Single Market and Economy) and special consumption taxes on alcohol, tobacco and petroleum products--averaged about 28% of GDP over the period. Other statutory deductions took up 15% of earnings and included 5% each for national insurance/social security; housing and education. While being heavily influenced by patterns of economic growth, revenue generation in Jamaica also suffered because of severe shortcomings in the efficiency of collection despite high

penalty and interest charges for late payments (Planning Institute of Jamaica, 2007). Some estimates indicated that, given the range and magnitude of taxes as well as increased technical competence in administration, Jamaica should be collecting at least 50% more revenue than it did (Tanzi, 2007). Except for international trade taxes, collections of most of the other large revenue sources (income, value-added and property taxes) were deemed to be deficient.

On the other hand, expenditures have consistently exceeded revenue (averaging about 34% of GDP). Successive governments from the 1980's have resorted to heavy borrowing both locally and externally to support the ailing economy and its own social and economic programmes. In particular the Government has had to rescue a number of failing financial institutions from bankruptcy or near bankruptcy - commercial banks, insurance companies, trust companies and merchant banks - and to prevent a total collapse of the financial sector and the economy in the latter part of the 1990's. The net effect was that the total debt (approximately 60% internal and 40% external) grew significantly from less than 20% of GDP in 1980 to 148% in 2005. (In 2007, this ratio had fallen slightly to 132%).

In terms of fiscal obligations, debt servicing which was less than 15% of Government's expenditure in 1980 rose to about 67% in 2001 and fell slightly to 59% in 2006. (Sovereign) Debt servicing has consistently absorbed the largest proportion of the government's budget since the mid-1980's leaving a more limited pool of 'discretionary funds' to be allocated among competing Ministries and priorities. With expenditure exceeding revenue in most years and the options for additional tax revenue severely curtailed, persistent fiscal deficits came under tight scrutiny from international lending and risk-rating agencies (multilateral, bilateral and private). Consequently, the pressures to introduce or expand measures to 'balance the budget' (such as divestment, revenue enhancement measures, debt rescheduling, flexible exchange rates, higher fees and charges in public services) featured prominently in policies and debates over the period.

Inflation, directly and indirectly, affects the cost of health services through (adjustments in) compensation agreements for health staff, prices of medical supplies especially drugs and equipment (most of which have to be imported), payments for some contracted services (such as cleaning, portering, laundry, security, dietary) and utility charges. Inflation rates fluctuated over the period from 15.8% in 1996 to 5.8% in 2006. Stringent monetary policies (high interest rates and bank liquidity ratios as well as decisive interventions by the government in its sale of bonds and Treasury bills as well as by the

central bank in building up a pool of foreign exchange reserves to prevent a free fall of the exchange rate) during the period largely dampened the price escalation effects of the depreciating currency (which stood at J$37 to the US$ in 1996 and declined to J$77 in 2008). The reappearance of double digit inflation in 2003 after 6 years of modest price increases from 1997-2002 was due to excessive price adjustments by businesses made as a result of a short-term spike in the exchange rate to about J$70 to the US$ and expectations of its continuance.

The pattern of medical inflation (measured using a package of office visits, prescription drugs, hospitalization and surgery costs and medical supplies) generally followed the same trends as general inflation with the rates of the former noticeably higher (by about 10%-15%) than the latter in most years.

In the labour market, employment levels averaged about 86% of the participating workforce over the period. The majority of persons were employed in the services sector (65%) as against the goods producing sector (35%) and the main sources of employment were government and public agencies (13%); private enterprises (51%) and own account/self-employed entities (36%). Unemployment levels remained in double digits despite some fluctuation over the period from a peak of 16.5% in 1997 to a relative low of 10.3% in 2006. One explanation is that the decline may be due more to falling labour force participation rates and more years spent in education than to real progress in job creation (Planning Institute of Jamaica, 2007). Rates of unemployment tended to be higher among females and young persons. However, being unemployed did not necessarily mean being 'out of work' or income as the informal sector continued to be a major source of employment and earnings (Witter and Anderson, 1991; PIOJ, 2007).

The net effect of weak economic performance and double digit unemployment levels should normally be reflected in rising levels of poverty. However the population living below the poverty line (measured using consumption not income data and based on surveys of spending patterns for a prescribed basket of essential goods and services) has generally been falling. In 1996 poverty levels stood at 26.1%. In 2006 the rate had fallen to 14.3%. According to the official data the explanation for this counter-intuitive situation could be the large size of the informal sector, the falling rate of inflation, the massive influx of remittance funds from relatives living in other countries and the success of poverty eradication programs (PIOJ, 2007). One of the major anti-poverty initiatives is the Programme for Advancement through Health and Education (PATH). Established in 2002 with partial funding from the World Bank, the program uses an objective,

computerized beneficiary identification system to target the needy and vulnerable (children, elderly, disabled, pregnant and lactating women and the destitute). Cash grants are given every 2 months on condition that members comply with conditionalities such as regular health checks (for all) and attendance at schools (for children). In 2007 it was estimated that the program was reaching about 67% of the target population.

In terms of income distribution (using consumption spending as a proxy for income), the Gini coefficient averaged 0.38 for the period and ranged from 0.36 in 1996 to 0.42 in 1997. (The coefficient varies from 0 when income distribution is equal to 1 when it is highly unequal). Levels of unemployment, poverty and income inequality had implications for health seeking behaviour, insurance membership and access to services as well as the ability to purchase other welfare-inducing goods.

The above macroeconomic patterns and concerns have been transmitted to the health sector in several ways:

- Government had to give priority to sovereign debt repayment, severe fiscal controls and greater selectivity in budgetary allocations to sectors/ministries – these led to much less resources available to the health sector in real and relative terms. For the public health sector this resulted in the build-up of unpaid bills, a long list of delayed capital expenditure and weaknesses in the ability to recruit and retain staff. (The impact of these are discussed in the next Section).
- The search for alternative revenue generating mechanisms by the public health sector led to the re-introduction of revised user fee programmes for health services in 1984, 1993 and 1997 and 2003 even while successive governments maintained an official policy line that no one would be denied access to health services because of inability to pay.
- High unemployment and poverty levels and slow growth of salaries in the private sector led to many persons facing difficulties in paying medical bills for private health services (hospital care, ambulatory services, drugs and diagnostic services) and returning to join the queues for subsidised care in the public sector. Among these were many persons who had private health insurance coverage.
- Largely influenced by income inequalities and deficiencies in the public health system, there developed a fairly well-defined three-tier health system where those with much resources went abroad for treatment; those with less to the private sector and those with little to the public sector.
- Macroeconomic forces played a major role in influencing policy and public

debates over health financing issues—adequacy of resources for the sector, fiscal constraints, how to share costs given the heavier tax burden on formal sector workers compared to self-employed and informal sector workers, prepayment vs. out of pocket payments and the scope for alternative mechanisms such as NHI.

4.6 Key Aspects of Health Financing Arrangements

a) Total Health Expenditure

Similar to the delivery of health services, health financing is provided through a mix of public and private sources. Using a National Health Accounts framework, Table 4.4 shows estimates of the aggregate and relative shares of health financing in 2006.

Table 4.4 Aggregate and Relative Shares of Health Expenditure, 2006

Source	Amount (J$bn)	Relative Share (%)
Public health expenditure	**20.4**	**55.9**
• Ministry of Health	*17.8*	*48.8*
• Other Ministries	*1.9*	*5.2*
• National Health Fund	*0.6*	*1.6*
• National Insurance Scheme	*0.1*	*0.3*
Private health expenditure	**16.1**	**44.1**
• Out of pocket	*10.6*	*29.0*
• Private health insurance	*4.8*	*13.2*
• NGO's	*0.7*	*1.9*
TOTAL	**36.5**	**100.0**

Source: Compiled by Author using data from Ministry of Finance Budget documents; Survey of Living Conditions and reports from private insurers to Planning Institute of Jamaica.

The estimates showed that total health expenditure (THE) amounted to J$36.5bn representing approximately 6.0% of GDP in 2006. The public-private split in THE showed that 55.9% came from public sources and 44.1% from private sources. Upon further disaggregation of the public financing sources, the data showed that resources from the Ministry of Finance (largely through taxes and some loan funds) were channelled through the Ministry of Health which managed the bulk of public funds for health services (87%) with the rest being spent by Ministries of Education (training and health education programmes); Labour (occupational health programmes) and Local Government (vector control).

Other sources of public financing came from the National Health Fund (J$0.6bn) which was established in 2003 to assist in financing prescription drugs for chronic disease

patients and to provide support funds for equipment, supplies and health promotion programs. In addition, some financing came from the National Insurance Scheme (J$0.1bn) through a health insurance program for its pensioners.

In terms of private health expenditure, the majority of funds came from out of pocket payments (66% or about 29% of THE); private health insurance expenses (30% or 13.2% of THE) and the rest from NGOs.

b) Public Health Expenditure and the MOH

The majority of financial resources for publicly provided health services (about 90% with the rest coming from user fees) were derived from annual budgetary allocations and managed by the MOH. Appendix 4.5 shows the pattern of public health expenditure by the MOH, recurrent or MOH (R) and capital or MOH (C), over the period FY1980/1 to FY2006/7:

- In nominal terms, MOH's total health budget i.e. MOH (T) increased from J$160.6mn in 1980/1 to J$17.8bn in 2006/7.
- As a percentage of the national budget or total government expenditure (TGE), the MOH allocation fell from 6.7% in 1980/1 to 4.8% in 2006/7. The year on year pattern is shown in Figure 4.1 with the highest percentage allocation of 8.4% received in 1990/1 while the lowest was 3.7% in 2001/2.[3]
- In real terms (with 1995 as the base year for deflators), MOH (T) grew from J$4.6bn in 1980/1 to J$4.9bn in 2005/6. This represented an overall real growth rate of 6.5% over the 25-year period. The highest real allocation over the period (J$6.1bn) was received in 2004/5 while the lowest (J$3.0bn) was received in 1986/7. In comparison, it should be noted that over the same period the overall government budget (TGE) grew by 81% in real terms (from J$68.6bn in 1980/1 to J$124.4bn in 2005/6);
- In real per capita terms (adjusting for population changes), real MOH (T) declined from J$2144 in 1980/1 to J$1851 in 2005/6 representing an overall decline of 13.7%. The annual estimates were plotted and are shown in Figure 4.2 with the

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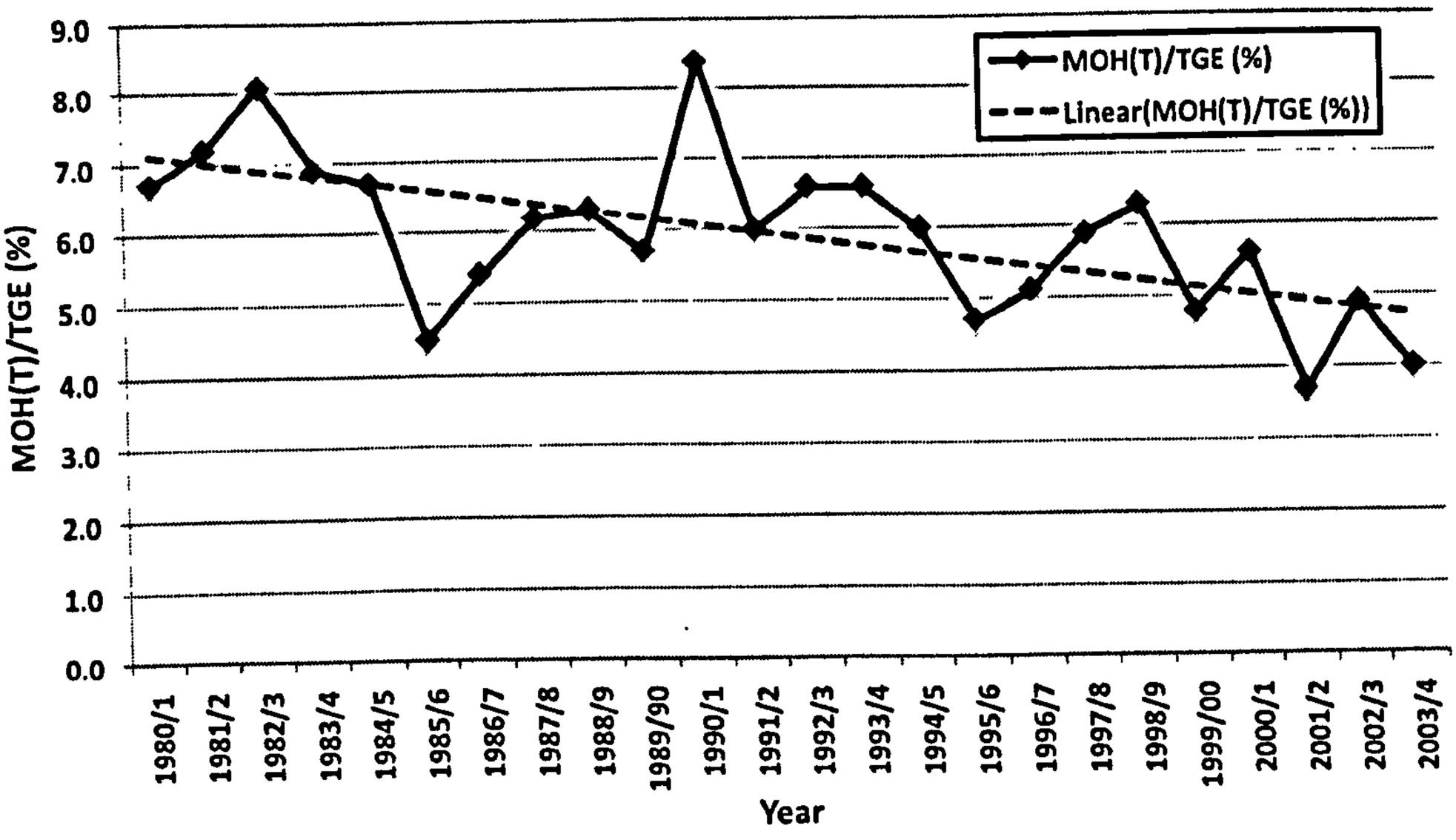
[3] Analysis of data over a longer period indicated that in the decade of the 1960's the MOH received about 11.1% of the budget for health services; 8.4% in the 1970's; 6.9% in the 1980's; 6.0% in the 1990's, and 4.5% in the first few years of 2000's.
As a percentage of the non-debt obligated or discretionary government budget, the allocation to the MOH fell from 14.2% in 1992/3 to 11.1% in 2006/7. The average allocation over the period 1992/3 to 2006/7 was 11.8% of the non-debt budget.

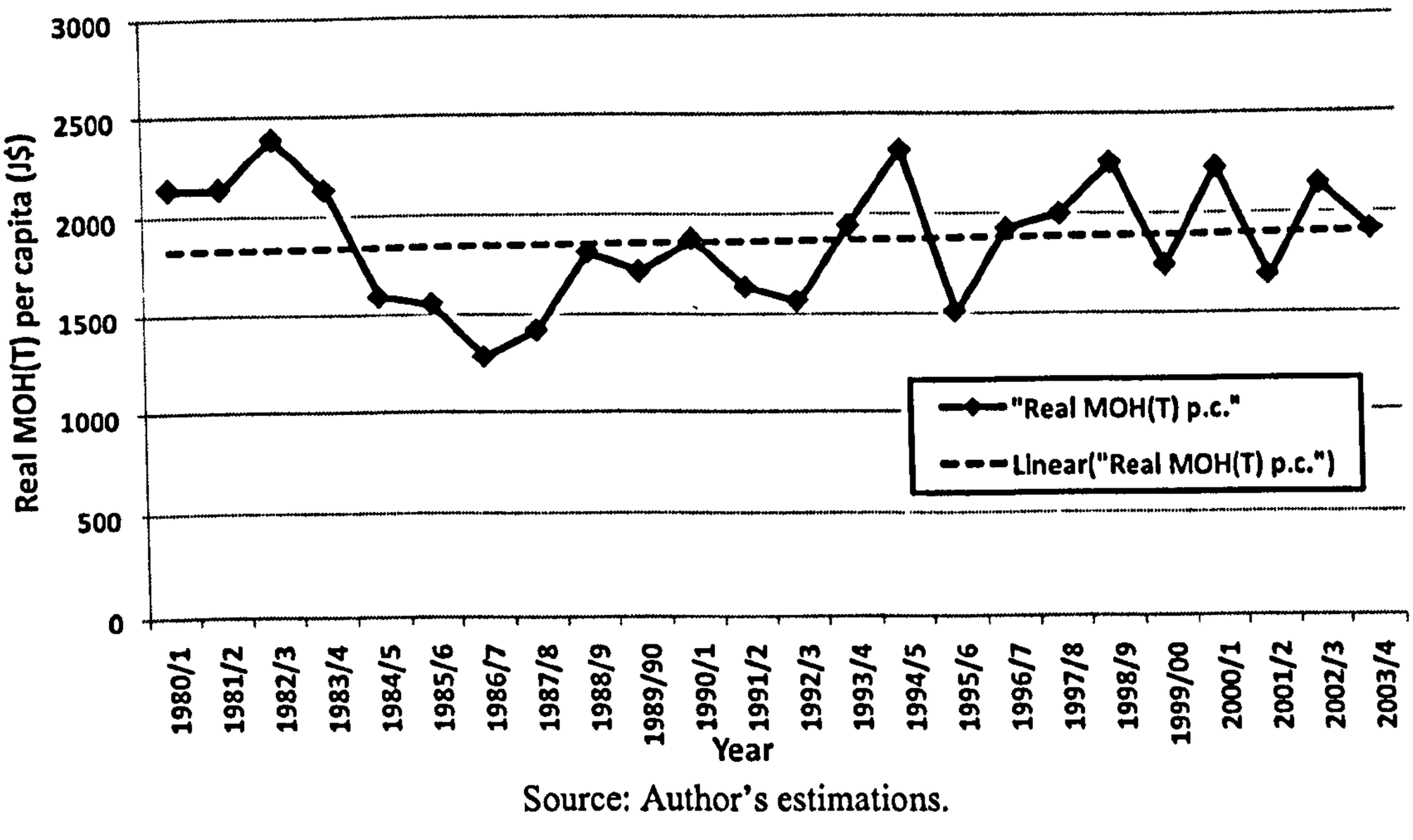
highest real per capita allocation of J$2397 received in 1982/3 while the lowest was J$1294 in 1986/7. Over the same period, real per capita TGE grew by 46%.

Figure 4.1 Total Ministry of Health Expenditure as % of Total Government Expenditure



Source: Author's estimations.

Figure 4.2 Pattern of Real Per Capita Ministry of Health Expenditure (J$)



Source: Author's estimations.

- the recurrent budget for health declined from about 8.9% of government's recurrent budget in the 1980's to 7.6% in the early years of the 2000's. The relative decline in the capital budget was more dramatic with the share of overall capital spending in health falling from 0.9% of government's capital expenditure in the 1980's to about 0.2% in the first few years of 2000.

- allocation to primary care fluctuated between 15% and 25% with the overall average being about 20% (which is less than the target of 25% recommended by international organizations such as the WHO). On the other hand, allocations to secondary and tertiary care services averaged about 70% over the period. Since decentralization and the establishment of RHAs in 1997, allocations have been merged into a single budgetary grant making it difficult to readily identify separate financing amounts for primary and secondary care.
- as a percentage of the MOH recurrent expenditure, staff costs (salaries, travel and subsistence payments) grew from 46% in 1980/1 to 76% in 2005/6. With the establishment of the RHAs, staff costs continued to absorb a significant portion of the budget of the RHAs amounting to as much as 92% in 2003/4. Despite receiving the majority of the health budget, earnings by staff in the public health sector were lower than for comparable positions in the private sector. This led to major difficulties in recruiting and retaining staff resulting in migration of health workers and persistent staff shortages especially for health professionals.

The MOH and RHAs had to resort to various coping strategies to manage reduced real budgetary allocations and shortfalls (given commitments to delivery of a broad package of health of services for all). One of these strategies was to build up arrears in terms of non-payment of statutory deductions and amounts owed to public utility companies. In 2003/4 it was estimated that the accumulated 'debt overhang' was about J$4bn or about 35% of the MOH's budgetary allocation.

The decline in budgetary allocations to health in Jamaica in relative and real terms occurred as successive governments responded to the challenges of prolonged fiscal difficulties, heavy burden of debt repayments as first call on public resources and the need to shift resources to more urgent needs such as national security. To track the financial implications of constrained budgetary flows, three simulations were conducted to show the likely nominal budget in 2005/6. Firstly, if the MOH share over the period remained constant at 6.7% of the total government expenditure (TGE) in 1980/1; secondly, if the MOH budget was increased in real per capita terms by 0.5% per annum from 1981/ to 2005/6 to take into account factors such as increasing demand due to population increase, technology changes and quality improvements; and thirdly, if the MOH budget was increased in real per capita terms by 1% per annum over the period to take into account the above factors as well as payment of higher compensation amounts to

recruit and retain staff. The results of the simulations are presented in Appendix 4.6 and depicted in Figure 4.3.

i) Simulation 1: Fixed Percentage of Government Budget

Assuming that the MOH health budget i.e. MOH(T) was held constant throughout the period at 6.7% of total government expenditure (TGE) in 1980/1 (which was still less than the average of 11% in the decade of the 1960's and 8.4% in the 1970s), the estimated nominal budget in 2005/6 should have been J$23.2bn rather than the actual allocated amount of J$13.7bn – a gap or shortfall of J$9.5bn or 69%. It should be noted that the MOH(T) allocation attained or exceeded the assumed 'benchmark' of 6.7% only 5 times in the 25-year period: 1981/2; 1982/3; 1983/4; 1984/5 and 1990/1. In every other year there was a 'shortfall' of varying magnitudes. In 1992/3 the 'shortfall' was J$ 23.4 million or 1.4% while in 2001/2 it was J$6.5bn or 80%.

ii) Simulation 2: Real Per Capita Increase of 0.5% per annum

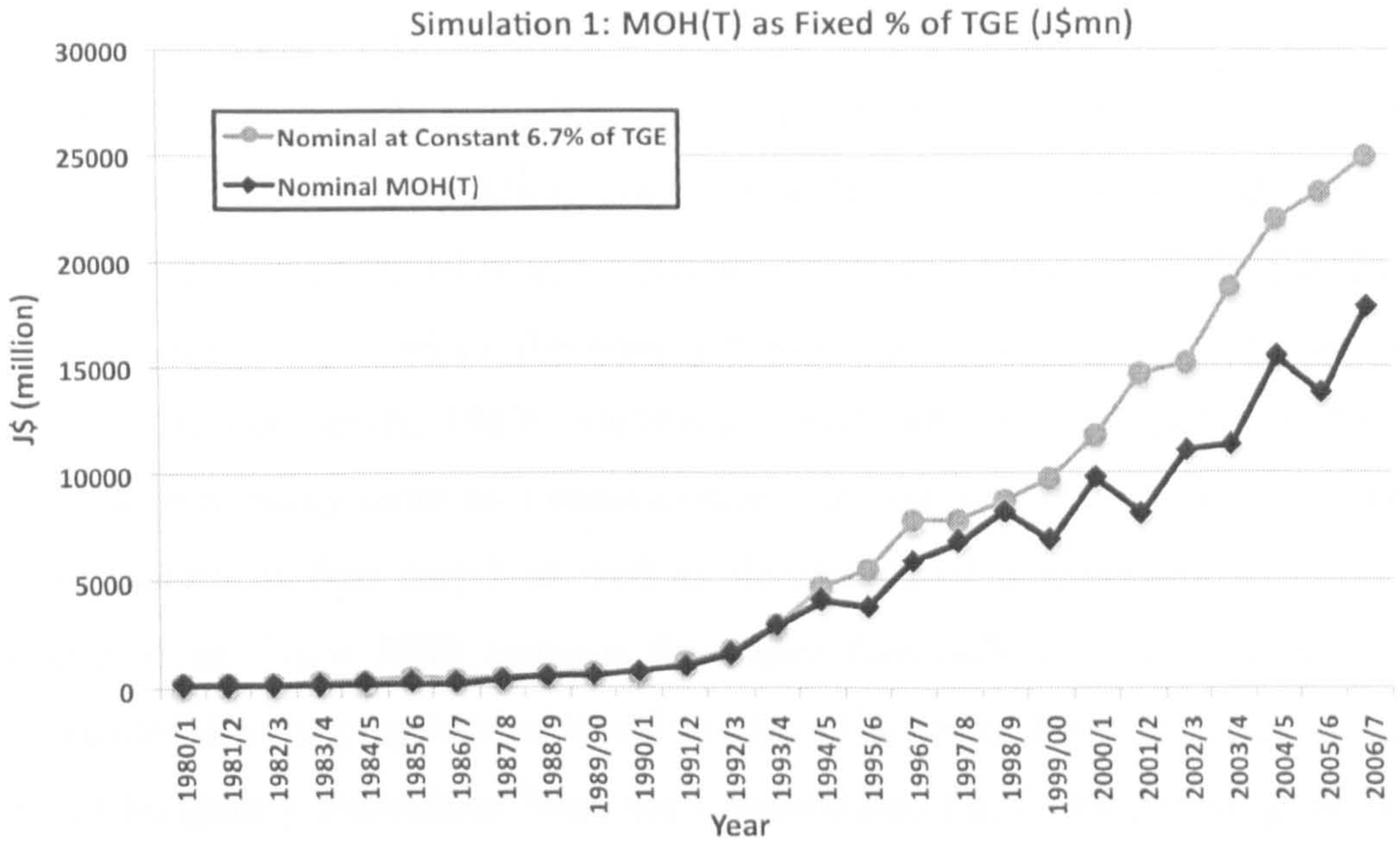
Assuming the MOH (T) budget was increased in real terms by 0.5% per capita per annum from 1981/2 and the estimated real amounts were reconverted into nominal dollars using the annual deflators, the data showed that there would have been negative variances when compared to the actual budget received in every year except 1982/3 and 1994/5. The gap in the actual budget ranged from J$0.7 million in 1981/2 to J$4.3bn in 2005/6.

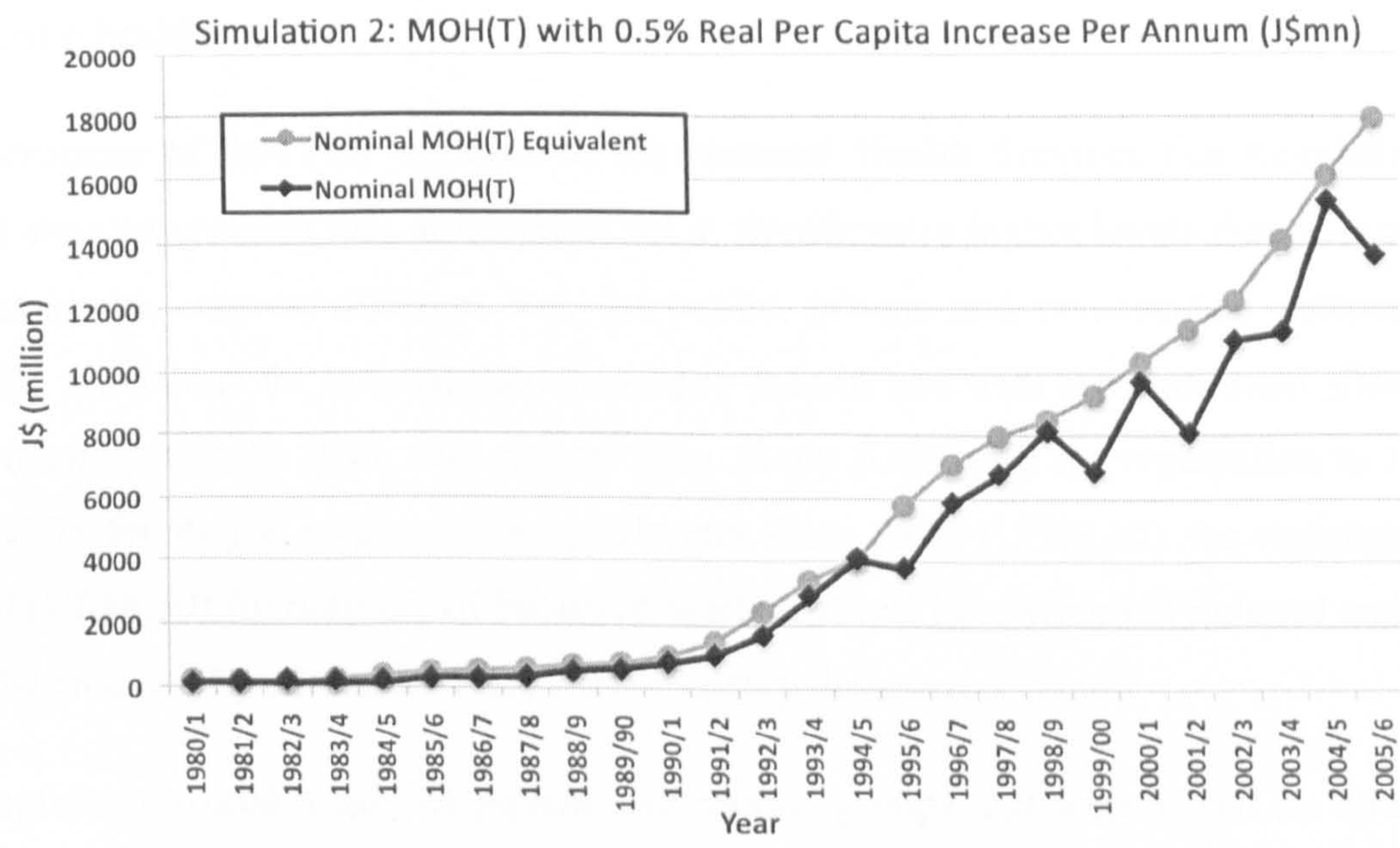
iii) Simulation 3: Real Per Capita Increase of 1% per annum

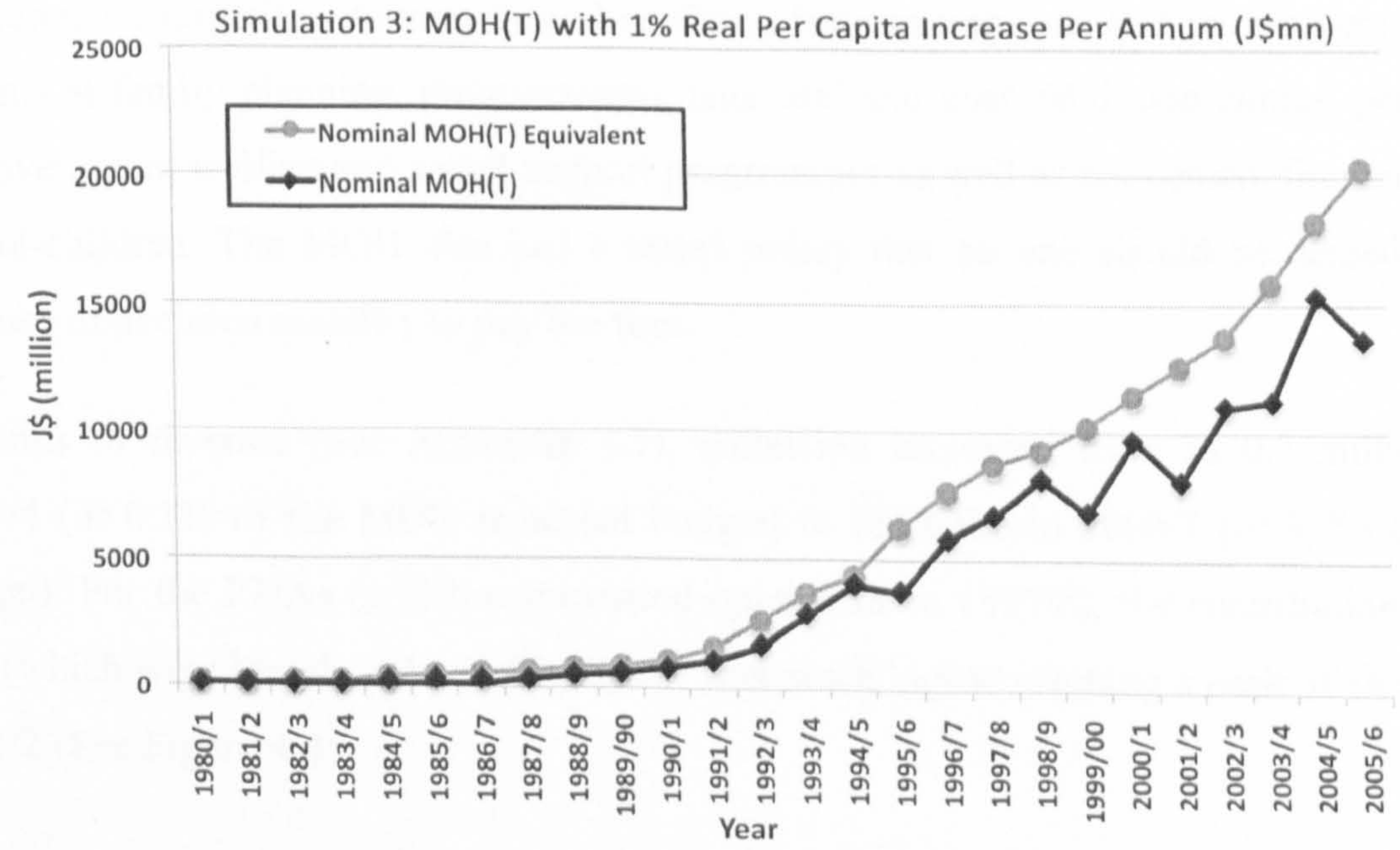
As in Simulation 2, with a real per capita increase of 1% per annum, the gap in allocation ranged from negative J$19 per capita in 1981/2 to J$982 in 1986/7. When converted into nominal dollars to estimate what 'should have been' the actual budget the shortfall in the MOH (T) budget ranged from J$1.6 million in 1981/2 to J$6.7 bn in 2005/6.

The data from the simulations highlight in quantitative terms what the likely flow of resources to the MOH over the period would have been when compared to the fluctuating budgetary allocations received from the government. For example, a consistent and reliable 6.7% allocation from the government would have resulted in a quite different flow of funds compared to the 3.7% of TGE received in 2001/2 and 8.4% in 1990/1. Similarly, predictable budgetary increases of 0.5% or 1% in real per capita terms per annum would have yielded much more resources for managing health services.

Figure 4.3 Simulations of Ministry of Health Expenditure in Jamaica







Source: Compiled from data in Appendix 4.6

c) *User fees*

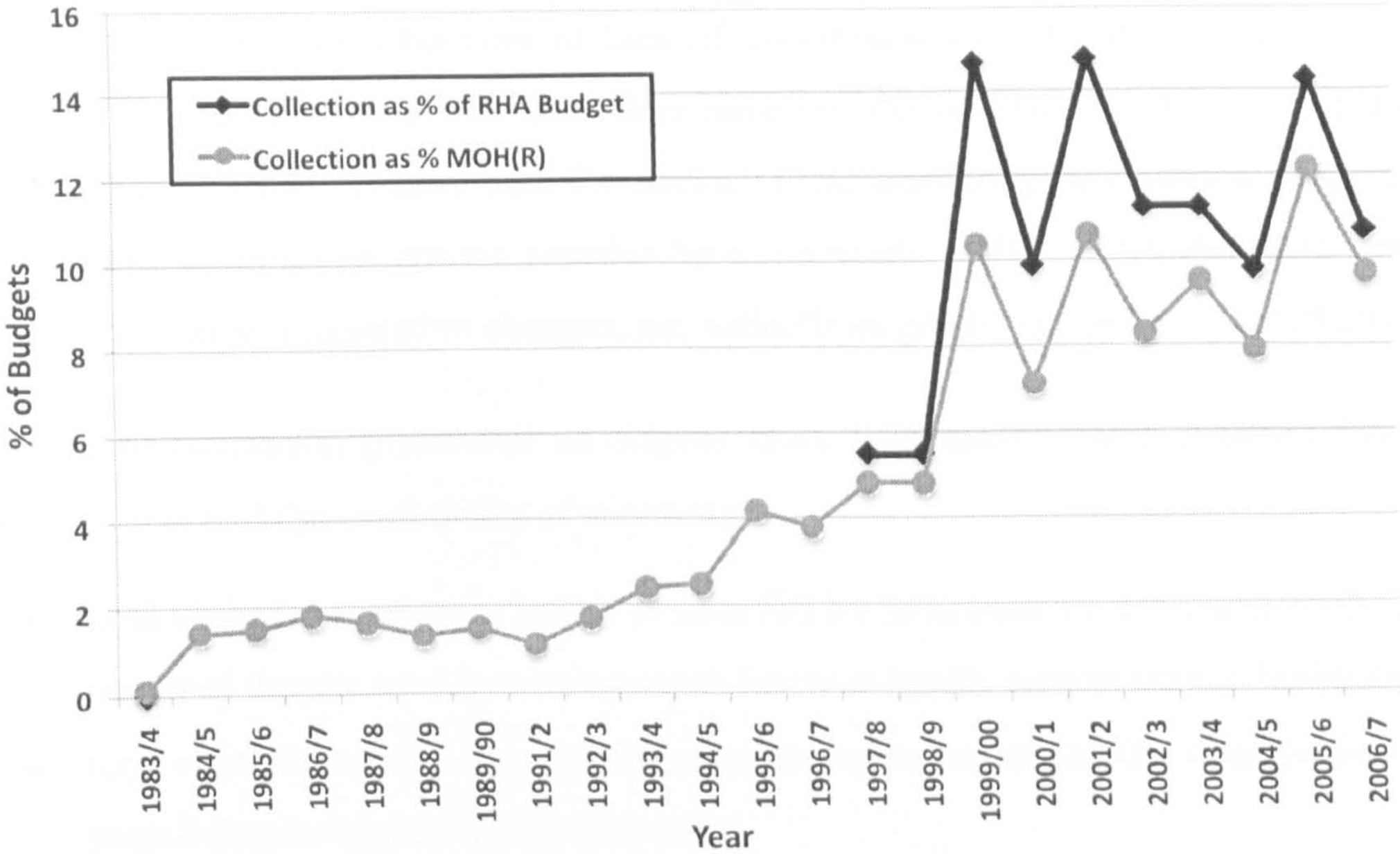
In response to budgetary difficulties as well as to recommendations from certain lending agencies that patients should contribute more directly to the costs of care, the largely unused user fee schedule for publicly provided health services was revised in 1984 and more substantially in 1993, 1999 and 2003 to play a more prominent role in funding, supplying and accessing services. Revenue generation has been cited as the main driving force for fees (Abel Smith, 1989; Shephard, 1995) but key informants in the MOH indicated that generating more cost consciousness among patients and health workers (to break the 'culture of free care') as well as deterrence of unnecessary care were also desired objectives. Since 2000, revenue from user fees collected by the RHAs was no longer considered as 'appropriations in aid' by the Ministry of Finance but as 'income' to supplement budgetary allocations from the Consolidated Fund for covering the costs of delivering health services.

The structure of fees (for example in the National Health Services Fee Regulations of 1999) showed uniform fees at hospitals set at significantly higher levels than the uniform fees at health centres; different fees for public, private and non-resident patients; and specific provisions for insured patients to pay fees in line with the maximum allowed in their health plans. In 1999, fees ranged from J$100 (US$1.50) for registration to J$8000 (US$133) for major surgery at hospitals and from J$20 (US$0.30) for registration to J$500 (US$8.30) for delivery of babies at health centres. Fees were not indexed and could only be changed by Ministerial and Parliamentary directive.

Exemptions covered a mix of patient and service groups and were based on direct and characteristic targeting. Among those benefiting from exemptions and fee waivers were patients at family planning, immunization, antenatal and post-natal care clinics; persons on government welfare and social support programmes as well as policemen, firemen and school-children. The MOH also had a stated policy that no one should be denied care because of declared inability to pay the fees.

In terms of revenue (See Appendix 4.7), collection increased from J$ 0.2 million in 1983/4 (or 0.1% of the MOH recurrent budget) to J$1.63bn in 2006/7 (or 9.7% of the budget). For the RHAs (which commenced operations in 1997/8), the contribution from fees (which were largely collected by them) was much higher reaching a peak of 14.8% in 2001/2 (See Figure 4.4).

Figure 4.4 User Fee Collections in Jamaica as % of MOH and RHA Budgets, 1983/4 -2006/7



Source: Compiled from data in Appendix 4.7

Collections increased substantially not just because of the higher fees in 1984, 1993, 1999 and 2003 but, in the post-1999 period, because of more vigorous, systematic and system-wide efforts (in hospitals and health centres) to enhance fee collections (discussions with key informants in MOH and RHAs). These included:

- more cashiers working longer hours in 2 or 3 shifts (compared to 1 day shift previously) in the major hospitals;
- more assessment officers working with patients to develop payment plans eg instalment payments for large bills or to collect what they could;
- better arrangements to collect payments from credit cardholders (rather than cash only) and from the insured population (with swipe card facilities and ample stocks of charge cards for manual claims);
- sensitization of the public through posters and other public education activities;
- prepayment plans for elective surgery, maternity and other treatments such as physiotherapy;
- improvements in admission, billing, ward monitoring, discharge and collection systems;
- strong advocacy to keep all fees collected by the RHAs rather than submit them to the Consolidated Fund. (Control over fees collected moved from zero percent in the early 1980's to 50% in the late 1980's and to 100% after 1999).

These efforts were partially successful as the data implied that about 60% of bills were unpaid (discussions with key informants in MOH and RHAs). Inpatients were more culpable than outpatients because of lack of coordination in discharge planning ('it is difficult to collect from patients once they have left the hospital') and because patients claimed that they had 'already paid the doctor'. (The latter may be evidence of approved and perhaps unapproved private practice by physicians). RHAs estimated that, despite expenditures on administrative changes, net collections greatly exceeded incurred costs.

In terms of utilization (measured as outputs since utilization is also closely related to supply factors and the availability of services):

- total visits for services at health centres fell by 35% between 1985 and 2002. This occurred despite user fees being much lower at health centres than at hospitals;
- total visits to hospital casualty departments increased about 90% over the same period despite higher fees at hospitals;
- total visits to hospital outpatient departments increased by 6% in the same period;
- total inpatient days grew from 1.1 million days to 1.2 million days over the same period (an increase of 9%).

The above pattern showing higher levels of utilization (outputs) at hospitals may be due to inadequate care offered at health centres, improvements in care at hospitals and higher relative prices of services in the private sector. (The latter was reflected in the Survey of Living Conditions data which showed increasing use of public facilities since 1996. In 2002 - in that year only - public facilities replaced private facilities as the main source of first-level care in Jamaica.)

The policy of user fees had a mixed reception over the period and this ambivalence was reflected among policymakers; frontline health staff and analysts. Some called for improvements in the billing and collection systems as well as indexation to increase the revenue generating potential of user fees (Shepherd, 1995). On the other hand, detractors pointed to the negative impact of fees on the poor and of deficient exemption mechanisms (Bitran and Associates, 2004).

The exemption system involved application of policies on scheduled exempt groups and services as well as interviewing/assessing those persons who declared problems in paying fees to determine what level, if any, waivers should be granted. Despite several improvements (more trained officers; sensitization programmes for staff and patients; facilities for privacy in the assessment process) the exemption system was still a source of

much complaint and deficiencies. These included lack of consistency in assessment of patients due to differing levels of diligence among officers; interference by politicians and health workers (relatives or disgruntled staff as well as physicians who had private practice) in 'commanding' officers who should be exempted; and problems in the poor getting exemptions because of their lack of knowledge of the system or fear of stigmatization or of services being withheld. The data suggested that less than 10% of patients received exemptions which seemed quite low given that the public system was used proportionately more by the poor and levels of poverty in Jamaica ranged from 44% of population in 1991 to 14.8% in 2005. One estimate suggested that there were significant Type 1 and Type II errors with 78% of the poor paying for care especially ambulatory services and 40% of the rich not paying (Bitran and Associates, 2004).

d) National Health Fund (NHF)

Established in 2003, the NHF provides financial subsidies to participating pharmacies (public and private) so that access to prescription drugs is enhanced for chronic disease patients (suffering from one or more of 15 conditions). Patient membership has grown to about 300,000 in 2008 or about 50% of the estimated population with chronic diseases. The NHF also provides off-budget funds for capital projects in the public health sector and for community health promotion projects. As indicated in Table 4.4, the NHF accounted for about 1.6% of total health expenditure in 2006.

e) Private Health Insurance

The percentage of the population covered by private health insurance grew from around 6% in the early 1980's to 18.4% in 2006. (This included policyholders and their dependents). Data from the Jamaica Survey of Living Conditions (2006) revealed that health insurance coverage is highest (about 30%) among those in the top quintile, persons aged 30—59 years and those living in urban areas. The majority of persons were covered in group (as against individual) plans which were typically part of overall employee benefit packages and renewable once per year. Membership included government workers and their dependents as well as pensioners of the National Insurance Scheme who were covered in voluntary health plans managed under contract by a private insurer.

The number and ownership of companies offering health insurance packages changed noticeably since the 1980's when there were 6 health carriers. Financial and commercial difficulties in the 1990's led to changes in the marketplace with some companies dropping and their portfolios taken over by the remaining or new companies. By 2000,

there were 5 companies offering health insurance - 4 were general and life insurance companies and one (Blue Cross of Jamaica) sold health plans only.

Appendix 4.8 summarises the main benefit items, limits and rules by insurers in 1997/2000.

As financing intermediaries, private insurance companies collected about J$5.0 billion in premiums in 2006 and paid out J$4.8 billion in claims. Over the period 1996-2006, the distribution of claims paid showed that the bulk of payments went to private providers. In terms of services bought, the distribution showed the following: prescription drugs (45%); office visits to GPs and specialists (20%); hospitalisation room and board and supplies (8%); surgery (7%); laboratory and diagnostic services (7%); and other services (13%) (LICA Annual Reports).

Health insurance carriers contended that health plans were not a profitable line of business but that it made good sense as part of overall employee benefit packages (discussion with key informant from LICA, 1999). They also indicated that the economic difficulties facing the country as well as the relatively high cost of trying to attract and retain individual members placed clear limits on their ability to expand coverage. These characteristics of the industry led to some expansion and innovation along 2 lines—firstly, to enhance packages for those already covered especially to include overseas care for top executives especially through agreements with international health benefits management firms; secondly, to design packages for specific diseases such as cancer and some cardiac condition ('critical illness' or 'dread disease' policies) which provided lump sum payments if the insured is diagnosed with the disease.

f) Out of Pocket Payments

Out of pocket payments represent a major component of total health expenditure and feature of the health financing system in Jamaica. As indicated in Table 4.1, out of pocket payments (comprising copayments in health insurance plans, user fees for public health services and other direct payments from the uninsured) are used to purchase ambulatory and inpatient services especially in the private sector but increasingly, with higher user fees, in the public sector. Data from the Annual Survey of Living Conditions showed that household direct health expenditure accounted for about 2.5% of total household expenditure over the period 1992-2006 (STATIN and PIOJ). When this percentage was applied to total private final consumption estimates in the national accounts, the resulting

figure provided an approximation of total out of pocket expenditure on health—in 2006 this came up to J$10.6bn or about 29% of total health expenditure.

The high levels of out of pocket payments reflected the inadequate coverage of prepayment plans either of the tax-based health services or of private health insurance plans. Key informants indicated (discussions with managers of private insurance firms and senior health managers in the Ministry of Health) that high out of pocket payments were due to certain key factors—voluntary behaviour of persons who choose to self-insure and involuntary behaviour of persons who did not fully understand prepayment plans or were never approached or were denied coverage by private insurers.

g) NGOs and Other Charitable Sources

For certain population groups and categories of health services, funds from NGOs, faith-based organizations and other charitable sources, local and foreign, were a crucial part of the financial flows to the health sector. The persistence of resource shortfalls in the public sector was a major factor encouraging the establishment and expansion of these sources of funds. Apart from those local groups linked to specific diseases such as Cancer Society, Diabetes Association, Heart Association and Sickle Cell Support Club, RHAs received assistance in cash or kind from 'friends of the hospitals' and from Food for the Poor (a local charity group).

Overseas financial assistance also played a major role in providing resources for health services and in 2007 the Jamaica Overseas Health Office (JOHO) was set up in New York to serve as a clearing house and to coordinate and channel health assistance (financial, supplies, equipment and technical skills) offered from time to time by civic, community and other organizations.

h) Social Security Spending

The local social security organization, National Insurance Scheme (NIS), was not a major provider of financing nor had much influence over developments in the health sector over the period. NIS, with just about 30% of the working population enrolled as contributing members, largely confined its activities to providing income replacement payments for sickness, maternity, pensions and other related benefits to retired members.

In 2003, NIS launched a voluntary contributory health insurance plan, NI Gold, for its pensioners. The plan covered a broad benefit package and was accessible in public and private health facilities. Administration was contracted to a private firm.

i) Proposals to Improve Financing Arrangements

In reviewing the pattern and performance of health financing arrangements over the period 1980 to 2006, several issues and concerns can be identified:

- overall budgetary stringency in the public sector affecting the availability and quality of services;
- inadequate resources for maintenance and supplies;
- inadequate compensation packages to attract and retain most categories of senior health professionals in the public sector;
- limited risk pooling arrangements and insurance cover among the population;
- large public subsidies to GP's and specialists who are allowed private practice in public institutions;
- inequity in access to and utilisation of services by the poor.

Over the same period several studies with varying levels of comprehensiveness were undertaken by local and external consultants to examine and recommend solutions to these health financing concerns (Abel-Smith, 1989; World Bank, 1994). In general, these studies recommended the following, either separately or in various combinations:

- higher user fees for a wider range of services and persons in public facilities;
- expanded private health insurance coverage using appropriate fiscal incentives and different benefit packages for different segments of the population;
- introducing some form of contribution-based national health insurance;
- establishing prepaid health plans and health maintenance organisations based on managed care principles;
- using vouchers from the State to assist the poor in enrolling in voluntary or compulsory health insurance plans;
- various measures such as efficiency savings and privatisation to improve the availability and quality of services in the public sector;
- formulation of a basic package of care to be provided in the public sector while reducing the State's involvement in secondary and tertiary care.

Except for user fees, some privatization (through contracting out some support services) and national health insurance, official attention largely ignored the other health financing-purchasing proposals such as more private insurance, HMO's, vouchers and concentration of public funds on a basic package of care.

4.7 Issues of Equity in the Health Sector

Ongoing policy and public concerns emphasised not just general or average health improvements but also the distribution of health gains among population groups (Abel-Smith, 1989; Cumper, 1991; Manifestos of PNP and JLP, 1997; Ministry of Health, 2001). Recognising the influential role of other sources of social and economic inequalities such as income, education, housing, access to water and sanitation, official policy has consistently given high priority to enhancing equity in health through access to an island-wide network of public services at (zero or) low out of pocket costs. However, equity concerns persisted in the Jamaican health sector as a result of:

- the declining availability of staff, supplies and services in public health centres which were established throughout the island to ensure geographic equity in access to essential primary care services. As such, many poorer patients were forced to seek care in the casualty and outpatient departments of public hospitals and in the private sector for services which should have been provided at lower level public facilities;
- inadequate monitoring of private practice by public doctors leading to poorer patients being kept on long waiting lists while private fee-paying patients jumped the queue;
- increase in user fees at public health facilities without adequate arrangements for targeting exemptions for the poor;
- the relatively high costs of private care requiring out of pocket payments especially in view of the low percentage of persons with private health insurance.

Using a mix of measures in terms of vertical and horizontal equity (Suarez-Berenguela, 2001) and fairness of financial contribution (WHO, 2000; Murray et al., 2003), Table 4.5 provides a broad indication of the nature and extent of health inequity by comparing the lowest and highest consumption groups (Quintiles 1 and 5 respectively). It should be noted that these represent opposite ends of the consumption spectrum and that the values for Quintiles 2, 3, and 4 were consistently within the range of those for Quintiles 1 and 5. Using data from the Annual Reports of Survey of Living Conditions, 1992—2006, on self-assessed health status, health seeking behaviour and health spending, it was found that relative to Quintile 5, Quintile 1:

- reported almost as much illness-injury (0.96);

- had protracted illness-injury: condition started before last 4 week reporting period (1.18);
- had more days of impairment (1.40);
- were less likely to seek care (0.79);
- used more public facilities for care (3.4), drugs (3.8) and inpatient services (1.8). Also made significant use of private facilities for similar services (0.49; 0.7 and 0.23 respectively);
- were more likely to use hospital outpatient departments (1.8) than primary care clinics (0.8) for their ambulatory visit;
- had little health insurance coverage (0.04);
- spent more of their non-food budget on health care (1.12).

Table 4.5 Pattern of Self-Assessed Health Status, Health Seeking Behaviour and Health Spending by Lowest and Highest Quintiles, Period Average, 1992-2006

Indicator	Quintile 1	Quintile 5	Ratio Q1:Q5
1. % reporting illness/injury in last 4 weeks	11.2	11.7	0.96
2. % reporting protracted illness-injury (began before last 4 weeks)	3.3	2.8	1.18
3. Mean number of days of impairment	6.7	4.8	1.40
4. % of (1) seeking care	50.6	64.1	0.79
5. % using public facilities for care	56.9	16.9	3.37
6. % using private facilities for care	38.0	77.1	0.49
7. % using public facilities for drugs	34.6	9.2	3.8
8. % using private facilities for drugs	61.2	87.4	0.70
9. % of those seeking care at (5) hospitalized in public facility	8.6	4.7	1.83
10. % of those seeking care at (5) hospitalized in private facility	0.3	1.3	0.23
11. % of those seeking care who use primary care services	61.7	74.6	0.83
12. % of those seeking care who use hospital outpatient departments	33.5	19.0	1.76
13. % of sample population with health insurance	1.33	30.5	0.04
14. Mean per capita health spending as % non-food spending	5.7	5.1	1.12

Source: Compiled by author from data in STATIN and PIOJ's Jamaica Annual Reports of Survey of Living Conditions, 1992-2006

Other studies have also drawn attention to equity issues in the health sector. Van Doorslaer and Wagstaff (1998) pointed to the pro-rich bias in access to health services especially for preventive care visits with a major contributory factor being the extent of health insurance coverage by the higher quintile groups. Theodore and La Foucade (1998) found that despite reporting as much illness-injury as the rich, health seeking behaviour of the poor was heavily constrained by concerns over quality of care in the

public sector and by the exclusionary role of private practice in public facilities which facilitated queue-jumping by the rich.

Health costs and the pattern of health financing play a crucial role in determining access to care. The dependence on out of pocket payments places a greater burden on the poor even in the public sector where fees are generally lower than the private sector and where the official policy is that no one should be denied care because of inability to pay. In 1999 a special module of the Annual Survey of Living Conditions reported that about 43% of the poor either reduced health spending, cumulated health bills, deferred seeking health care, depended on local charities or resorted to home remedies and prayer as strategies to cope with health care costs. As a follow-up in 2002, about 20% of respondents in the Survey of Living Conditions reported that they did not seek health care despite reporting an illness-injury because of financial difficulties. Murray et al., (2003) estimated that about 5% of households in Jamaica faced 'catastrophic' health payments because their health spending exceeded the 40% threshold of their 'capacity to pay' (i.e. their non-subsistence earnings).

Generally it would appear that given the high levels of unemployment and poverty, the public sector was not as effective as it was designed to be in ensuring access to services by the poor or in protecting them from financial distress brought about by health costs.

4.8 The Health Reform Programme

The accumulation of evidence from analytical reports prepared by consultant teams and MOH officials as well as from complaints by the public and health workers indicated quite clearly that despite some major achievements, the health system was not achieving its goals and had become a significant source of frustration and disappointment (Ross Institute, 1982; Abel-Smith, 1989; Cumper, 1991; Manifestos of PNP and JLP, 1997). The main areas of concern included overcentralisation of decision making, allocative inefficiencies in terms of the mix of services and facilities, inequity in access to services, and financing constraints (Armstrong, 1994; MOH, 2001).

Alongside these concerns were the changing perceptions of the functions of the State and the extent of its involvement in the ownership, financing and micro-management of health services (as well as of all other publicly provided services). These issues were not unique to Jamaica but seemed to be match similar concerns in other developing countries necessitating international action on health reforms in the 1990's especially in respect of

'new public management' (World Bank, 1993; Mills, 1998 and 2001; WHO, 2000). This mix of internal and external push factors led to the design and implementation of a formal, and formally designated, Health Reform Programme which commenced in 1997 and ended in 2005. With funding from the InterAmerican Development Bank and local sources, the programme was conceived as one involving strategic action to improve the management, financing, delivery and quality of services for greater cost-effectiveness and sustainability (MOH, 2001).

It should be noted that 'health reform' was not new to Jamaica. Several project activities in the 1970's and 1980's (with external assistance from the World Bank, USAID and the IDB) though less comprehensive than the formal 1997 program, sought to 'restructure' or 'rationalise' or 'improve the functioning' of the sector in general and the public health sector in particular (Ministry of Health, 1984; Abel-Smith, 1989; Cumper, 1993; Armstrong, 1994). For example the increased emphasis and investment in primary health care in the 1970's involved not just changes in health interventions but also in the philosophical principles, legislation, human resource mix, and management framework for health services. Restructuring and rationalisation activities in the 1980's led to the upgrading and downgrading of some public hospitals, revision of the user fee programme, divestment/contracting out of some support services in public hospitals and changes in the management structures in the public health system. As such the 1997 reform programme was both a continuation of previous initiatives and the implementation of new activities (Discussions with ex-CMO Dr. Wint and Director of HRP, Dr. Holding-Cobham, 1997).

The major goals of the HRP were cited as enhancing equity and accessibility, efficiency, quality, financial sustainability, intersectoral collaboration and social participation (MOH, 2001, DAH Consulting Inc, 2004). To achieve these goals, several major activities involving a mix of systemic improvements as well as new initiatives were implemented or contemplated. These included the following:

- Decentralisation of the management and delivery of health services through the establishment of 4 statutory agencies - Regional Health Authorities - and re-organisation of the Head Office to focus on policy-making, strategic planning, standards and regulations and capital investments.

- Quality Assurance involving the preparation of manuals and protocols for health services, development (or revision) of standards and regulations, emphasis on clinical governance and client-friendly services.

- Establishment of an Emergency Medical System to provide paramedical emergency care and transport to health facilities for critically ill or injured persons.

- Health Promotion initiatives to educate and empower communities and individuals in respect of health risks and preventive action as well as to influence decision-makers to design healthy public policies.

- Mental Health Restructuring to emphasise de-institutionalisation of patients and provide for care in local communities and acute beds in general hospitals.

- Drugs for the Elderly Programme to enhance access to prescribed drugs for a select list of chronic conditions affecting the population over 60 years through subsidies given to public and private pharmacies. This was expanded in 2003 through the establishment of the National Health Fund (NHF) to cover all persons suffering from a wider range of chronic conditions.

- Expansion of user fee programme to generate more funds for public health services.

- Establishment of an NHIP.

The interface between the goals and components of the Reform Programme and the linkages with previous health improvement measures is shown in Table 4.6. Some measures such as Decentralisation, Drugs for the Elderly and Quality Assurance were multi-faceted and expected to achieve more than one goal. There was no explicit ranking of goals and almost inevitably difficulties arose in terms of interpretation of priority and speed of implementation of the various measures.

The Table also highlights the key role expected of an NHIP in confronting weaknesses in the health system and achievement of the goals of the overall Reform Programme. This had major implications for the design of an NHIP in terms of the varying interpretations of stakeholders on whether it could actually achieve all these goals as well as the likelihood that an NHIP represented a fundamental change in the pattern of public financing of health services.

Table 4.6 Health Improvement Goals and Policies / Projects, 1970's - 2005

Policies and Projects	Goals			
	Equity-Access	Efficiency-Quality	Financial Sustainability	Social and Intersectoral Participation
A. 1970's				
• Primary health care and construction of health centres	**	**		**
• Training and deployment of community health aides	**	**		**
• Abolition of user fees	**			
• Proposal for social insurance	**		**	
• Formation of community health councils				**
B. 1980's				
• Downgrading of some hospitals		**	**	
• Revision and re-introduction of user fees		**	**	
• Divestment of support services		**	**	**
• Re-centralisation of some primary care from Local Government		**		
• Upgrading of some hospitals	**	**		
C. 1997 –2005				
• Decentralisation by RHA establishment	**	**		**
• Reorganisation of Head Office		**		
• Change in hospital management structure		**		
• Proposals for NHIP	**	**	**	**
• Revision of user fees		**	**	
• Quality Assurance	**	**		**
• Emergency Medical Services	**	**		**
• Mental Health Restructuring	**	**		**
• Drugs for Elderly - later merged into NHF	**	**		**

Source: Compiled by Author from data at the Ministry of Health

4.9 The Health Policy-Making Process

In seeking to identify how health policies were developed and decided in Jamaica, two key aspects were examined: first, the general policymaking process and second, the local institutional framework and levels at which different policy issues were addressed.

Most writers who have examined or commented on the policy-making process (Hogwood and Gunn, 1984; Ham and Hill, 1993; Walt, 1994; Barker, 1996; Gilson et al., 1999) identify five main activities or stages:

- problem identification and agenda setting;
- policy formulation;
- policy decision;
- policy implementation;
- policy review and modification.

There is also general concurrence among these writers that the degree of success or failure of a policy depends on the rigour applied in conceptualization, the feasibility of the particular design and components of the policy, the amount of resources (including political commitment and administrative capacity) devoted to implementation and the influence of external factors which can facilitate or frustrate activity.

Generally, in terms of health policy in Jamaica, these activities or stages are realised in the following manner (discussions with Ministers of Health, PS in Ministry of Health, ex-CMO and officials in Ministry of Finance, 1997/8):

- Problem identification and policy ideas got on the health agenda (for consideration and action) from several sources such as inputs or feedback from the general public, key stakeholders, groups of health professionals, consultant research teams and external agencies (regional, multilateral and bilateral). Policy ideas were also derived from proposals and promises in political manifestos, international agreements or from previous and ongoing policies.

- Policy formulation took place through research, consultation and discussion activities spearheaded by technical teams at the MOH, Ministry of Finance and other public agencies (such as the PIOJ and the Attorney-General's Office where legislation was involved). These activities aimed to clarify issues and options as well as to recommend actions and resource requirements.

- Policy decision occurred at different levels depending on whether major national or sectoral or institutional initiatives were being considered. The 'policy hierarchy' is discussed further below.

- Policy implementation involved new or existing agencies and programmes, new or revised tasks and targets, and changes in the sources and volume of resources. Some policies required collaboration with one or more agencies outside the MOH or the public sector.

- Policy review was undertaken through ongoing monitoring activities and reports or, depending on the type of policy, at specified times during its lifetime such as mid-term or annually or upon completion. This was usually done using internal teams and, in many cases, external teams for major policies especially those supported by international and bilateral agencies.

Following the framework offered by Walt (1994), health policies which involve 'high politics' in Jamaica (such as health reform, National Health Insurance, decentralisation) would necessitate attention by the central Government. This would require the Minister of Health to prepare a Cabinet Paper(s) usually with direct inputs from key senior officers in the MOH who in turn may have formulated their positions based on technical reports or consultative meetings with key stakeholders. Cabinet Paper(s) are presented at the regular weekly or sometimes, if warranted, special meetings of the Cabinet. Agreement at this level is followed by the preparation of a Bill (if legislation is needed) or a discussion paper (Green Paper) for public comments and debate at the first level of the bi-cameral legislative system—the House of Parliament (whose membership includes representatives of political constituencies won by Government and Opposition parties). From this chamber (if there is general agreement) discussion is taken up at the next higher level—the Senate (comprised of nominees of the ruling and opposition parties) —especially if legislation is proposed. Changes to the draft documents or bills are suggested at the Senate and, following agreement, the Governor-General's seal or signature is the final stage in the process.

Not all policies require decision making at the highest level. Many involve 'low politics' and are determined at the level of the Cabinet or by the relevant Minister of Health and Permanent Secretary who have jurisdiction over a defined range of matters. With the establishment of RHAs (as part of the Health Reform Programme) as semi-autonomous bodies, 'operational policies' can be formulated and decisions made by them on several issues which were formerly dealt with by the MOH Head Office. Lastly health facilities such as hospitals and health centres are permitted to develop 'local policies' on a narrower range of operational issues.

4.10 Summary of Findings from Situation Analysis

This Chapter has reviewed and highlighted the key features of the policy context relevant to considering NHI in Jamaica. These include the demographic patterns, structure of health services delivery, burden of disease and utilization patterns, macroeconomic developments, health financing modalities, the concerns over equity and health, health policy-making process and the role of the Health Reform Programme.

A summary of how these features were likely to influence expectations and the design of an appropriate NHI is presented in Table 4.7 below.

Table 4.7 Likely Implications of Contextual Factors for Design of NHI Jamaica

Contextual Factors	Implications for NHI Design
1. Demography	
• relatively small population	• likely efficiency of a single vs. competing insurers
• aging population	• greater demand for visits, drugs and hospitalization
• falling dependency ratio	• reduced cost-sharing burden on working population
2. Organisation of Services	
• Mix of providers	• importance of choice for visits, drugs, tests, inpatient care
• Private practice	• this may decline with NHI entitlements to care package
• Overseas care	• inclusion may be costly; exclusion may be opposed
3. Morbidity and Mortality	
• Dominance of chronic diseases and high IMR/MMR	• package should include mix of curative and preventive services
• High level of injuries	• these are mostly emergency and rehabilitative cases and the latter may not fit easily into an NHI package.
4. Utilisation Patterns	
• Unmet demand	• health seeking less than reported illness so increased demand likely under an NHI
• Greater use of hospitals	• need for balanced package- primary and secondary care
5. Macro-economy	
• Slow economic growth	• weak sectors may affect willingness to support NHI
• Fiscal difficulties	• debt obligations may affect ability of State to contribute on behalf of poor and unemployed.
• High unemployment, poverty and informal activity	• universal coverage may be difficult to attain at onset of NHI
6. Health Financing	
• Public financing gap	• NHI can play key role
• Low private insurance	• room for low-cost plans; those with plans may oppose another deduction for NHI; private insurers may be sub-contracted.
• User fees	• may be replaced with co-payment system
7. Equity	
• Access to services	• unmet demand may be reduced under NHI
• High out of pocket spending	• can be substantially reduced with NHI
8. Health Reform	• can re-build confidence in public health system and lead to improved standards and regulations for sector.

Source: Author's compilation

The mix of influences outlined above suggested that there were aspects which could facilitate as well as challenge the design of what NHI features would be implementable without much difficulty, what would require strong or perhaps radical policy decisions, and what would have to be delayed until the socio-economic environment was more favourable. From this it would appear that key design issues for an NHI plan would be:

- Universal coverage with particular attention to certain population groups such as the informal sector, self-employed workers and the poor;
- the components of the package of benefits;
- the network of health service providers;
- the remuneration arrangements for providers and role of private insurers;
- the role of an NHI in relation to the other health financing mechanisms.

CHAPTER 5: GOVERNMENT AND STAKEHOLDER PERSPECTIVES AND PROPOSALS ON THE DESIGN OF AN NHIP

5.1 Purpose of Analysis

After decades of studies, debates and deferred decisions, the Jamaican Government prepared a formal set of proposals defining its conception of and intent to implement an NHIP. These proposals were stated in its 1997 Green Paper on NHIP and was distributed to elicit public discussion, comments and feedback. In addition, a broad-based Steering Committee comprising officials from key public and private sector stakeholder groups was established to examine the proposals, suggest modifications and recommend specific actions for implementation.

The draft Green Paper proposals received mixed reactions from the public and key stakeholders ranging from strong support, no comment, 'wait and see', to strong opposition. Divided opinions were also evident in the Report of the Steering Committee in that its recommendations did not produce a clear-cut path for implementing an NHIP by the Government.

This Chapter presents data on 4 aspects of designing an acceptable NHI plan for Jamaica: firstly, on the history and process of the policy choice of NHI; secondly, on the policy framework and components of the draft proposals on NHIP by the Government in its 1997 Green Paper; thirdly, on the specific views and positions of key stakeholders in relation to the Government's proposals for an NHIP; and fourthly, on the principal design features of an NHI plan for Jamaica as recommended by these stakeholders. The findings are based on an analysis of official documents and statements on the NHIP (and related health reform policies), comments from members of the public in letters sent to the national newspapers as well as in community meetings on the NHIP and a mix of in-depth interviews with key stakeholders and informal discussions with key informants. A full description and discussion of the methodologies used in the data collection and analysis was provided in Chapter 3.

The findings and analysis of this Chapter are discussed in the following manner:

a) how did an NHIP become part of the national (health) policy agenda in Jamaica, who were the chief advocates and what were the key agencies involved;

b) what were the principal features of the Government-proposed NHIP in 1997 and why was it such a major public policy issue;

c) who were the key stakeholders; what were their interests; what were their responses and, using a political mapping spectrum (or 'forcefield matrix' as described by Gilson et al., 1999; Varvasovszky and Brugha, 2000), what was their relative position in relation to the NHIP proposals;

d) what did each stakeholder recommend as the main goals, features and success factors assuming he was given the opportunity to custom-design an NHIP for Jamaica; and

e) through merging of the dominant recommendations from stakeholders, what constituted their 'acceptable' or 'satisficing' features of an alternative NHIP for Jamaica and to what extent did these features differ from the proposals by the Government.

The recommended NHIP options derived from the above methodological sequence will form the basis for the financial and policy modelling presented in Chapter 6 as well as the evaluation of options and discussion of results in Chapters 7 and 8.

5.2 History of NHI on the Policy Agenda

Intense as against spasmodic national discussions on some version of a contribution-based universal health financing system (since the actual words 'national health insurance' were not always used in the documents/discussions) can be traced to the 1960's when proposals for a social security/national insurance plan for workers were being developed. This was the period just after political independence in 1962 and the main political parties espoused policies and programs aimed at hastening the process of development and uplifting social welfare of citizens (Manley,1982). Establishing a national insurance/social security system was a major component of the development thrust. At that time trade unions (which dominated the leadership and ideological orientations of the main political parties), employer groups and the Ministries of Labour and Finance were the principal actors seeking to define the content of the plan. With the International Labour Office (ILO) playing a key advisory and technical role (an indicator of the concept of 'international policy transfer/convergence'—Walt, 1994) and following the traditional social insurance focus on the working population (Mesa-Lago, 1989; Ron and Tamburi, 1990, Roemer, 1993), the major debate centred on the financing and

administrative implications of establishing a comprehensive system which would include health insurance as against a more limited scheme focusing on pensions, sickness benefits, disability compensation and funeral grants for members. Union representatives, assuming the role of spokespersons for all members of the working class and the masses wanted comprehensive arrangements to include the non-working population. Employer groups insisted on a limited scheme for workers only and excluding health coverage.

The debate ended in favour of a limited plan and in 1968 the present-day National Insurance Scheme (NIS) was established. Proposals for including health insurance provisions whether for members of NIS or the non-working population were shelved. Based on discussions with the ex-Director of the NIS in Jamaica (West, 1998) and a local health consultant (Hinchcliffe, 1997), it seemed that two main factors were responsible for the choice of a limited system--firstly, the percentage deduction from wages and salaries for a combined NIS and health insurance plan (estimated at about 12%) was deemed unacceptable and politically unpalatable. (The current deduction of 5% for NIS benefits only has remained unchanged since 1968. The income ceiling has been adjusted periodically and is shared equally between employers and employees). Secondly, it was felt that with significant upgrades planned for the public health system, health services would be adequate to meet the needs of the working and general population.

In the 1970's the issue arose again as the political party in power had changed (in 1972) and the new Government (the People's National Party), infused with the principles of "democratic socialism"; "empowerment of the people" and "upliftment of the working class" (Manley, 1982), felt that a national health insurance plan should be instituted as part of the enhanced development program for the health sector. Led by the Minister of Health, research and planning activities resulted in the publication of a Green Paper on a National Health System by the MOH (1974) outlining proposals for overall health sector development and a contribution-based health financing plan supported by tax funds.

While the debates on the 1974 Green Paper proposals were underway, the focus of the Government shifted and it was felt that adequate housing especially for low-income groups and universal education should be greater priorities. In addition, it was felt that the health sector was already being strengthened and expanded through heavy investments by the Government in primary health care facilities and programmes prior to and later as part of its commitment to the Alma Ata Health for All strategy (Ministry of Health Green Paper, 1974; Evaluation and Planning Centre, 1987; Abel-Smith, 1989; Cumper, 1993). As such, mandatory contributions for housing (managed by a National Housing Trust

which was set up in 1976) and education (managed as part of the revenue flow to the Government) were instituted, and plans for national health insurance were shelved. In the words of a key informant the "MOH did the research but the ideas and dollars ended up with housing" A local health consultant was more blunt stating that "we lost in the battle of priorities and allocation" (discussion with Ms. A. Hinchcliffe, 1997).

At the beginning of the 1980's government changed hands and the party which ruled in the 1960's at the time when the NIS was established (the Jamaica Labour Party) returned to power. Deliberations on national health insurance were re-started. By this time economic difficulties (which started in the mid-1970's) were severely constraining the ability of the Government to support the public health system (as well as other public programmes) and with IMF/World Bank-supported economic stabilisation and adjustment programmes dominating the policy arena, there was a renewed search for alternative health financing mechanisms (Evaluation and Planning Centre, 1987; Boyd, 1988; Ogle Committee, 1988; Witter and Anderson, 1991; Cumper 1993; Abel-Smith, 1989). As part of the search for alternative financing methods, user fees which were abolished in the 1970's by the previous government, were re-introduced, increased and expanded to cover more categories of services in 1984. In contrast to the party in power in the 1970's which treated user fees as inconsistent with its democratic socialism principles and insisted on free care for all, the new government felt that user fees would bring in more funds for health and enhance individual responsibility for health. Even though the targeted collections were quite low (less than 4% of the public health budget would be recovered from these fees) the programme was seen as a major step in the inculcation of a fee-paying ethos among residents and a first step in the development of a national health insurance plan (discussions with Dr. B. Wint, ex-Chief Medical Officer, 1998).

As directed by the government, several proposals for full-fledged or phased or pilot NHI plans were developed by teams of local and external consultants (funded by a mix of local funds and grants from the USAID, World Bank and IDB). These were reviewed and debated within the Ministry of Health and at the level of Committees and Cabinet (not Parliament). Despite the involvement of the Ministries of Health and Finance in commissioning these studies and of private insurers as major collaborators in the research and discussions, the proposals were either discarded or put on hold (Abel-Smith, 1989; Cumper, 1993; World Bank, 1994). Among the factors cited for non-implementation were the difficulties of collecting contributions from the large number of workers in the informal sector; indecision on whether a new public institution or existing private insurers

should be the administrative body; the contents of the benefits package; and concerns over public acceptability of a plan at a time when services in the public health sector were generally felt to be low quality and inadequate (Abel-Smith, 1989 and discussions with ex-Chief Medical Officer, Dr. B. Wint and ex-Head of Health Reform Unit, Dr. Holding-Cobham, 1998).

In 1989, the reins of Government changed hands again and considerations of national health insurance re-emerged on the government's agenda. The new Government, the People's National Party, (which was also returned to power in subsequent elections in 1993, 1997, 2001 and 2004) decided to re-examine existing policies and initiatives in the health sector (as in all other sectors) and to implement its agenda for health financing change. The new Minister of Health (with an established academic record as a political economist) alongside the Permanent Secretary in the Ministry of Health (with experience in public sector modernisation measures) became the leading advocates for sectoral changes and alternative financing in health. Faced with continuing major fiscal constraints and budgetary shortfalls in health, the user fee schedule of 1984 was revised and increased in 1993 and 1997 in an attempt to mobilise additional funds for the public health system.

In 1995 negotiations commenced for a multi-faceted Health Sector Reform Programme supported with financial and technical inputs from the IDB. The Programme was launched in 1997 with NHI as one of the key components. (See Chapter 4). Research, involving an in-house unit in charge of the Health Reform Programme as well as teams of consultants re-commenced on the role and design of an NHIP. This included participation in international meetings at which health financing issues and measures were articulated as well as a study tour by a team from the MOH (including the Minister of Health) to Bermuda which had implemented a mandatory health insurance plan since 1971. (A second study tour to Colombia took place in 1998 with a new Minister of Health as part of the team).

These research efforts culminated in the drafting by the MOH and presentation in Parliament by the Minister of Health of the Green Paper on NHI in April 1997. The Green Paper was debated and passed in Parliament and made available for comments by the public. A series of public outreach activities commenced in mid-1997 to discuss the NHI proposals through the mass media and directly with communities as well as select professional groups. This was followed by the establishment of a Steering Committee in early 1998 to review the underlying policy and general design of the plan and advise and

make recommendations for achieving the objectives. The Committee, which presented its report in late 1998, was aided in its deliberations by the publication of a supplementary document by the MOH 'Draft NHIP Policy Framework and Design Implications'.

5.3 Goals, Proposals and Public Significance of The 1997 NHIP Green Paper

NHI as a policy initiative took on national dimensions (as against technical-bureaucratic considerations in committees only) with the publication and debate in Parliament of the Green Paper on NHI in 1997. This was a concise 20-page document indicating the major philosophical and conceptual features of the Plan as well as the course of action to be followed in development of the detailed operational aspects. As defined in the Green Paper:

> *"the NHIP is a contributory health financing plan aimed at covering all residents of Jamaica for a stipulated package of medically necessary services. It is designed to assist individuals and families in meeting the high costs of health care without suffering financial distress and to provide dedicated resources for enhancing the availability and quality of health services" (Green Paper, 1997 p.4).*

With the goals and strategies of the Reform Programme as the broad policy and operational framework, the Green Paper described the expected role of NHI and its linkages with the other health reform activities. Citing "the increasing resource gap between the demand for and availability of health resources", "the growing inequity in access to health services" and "the constraints on the State in providing more resources for health services" as the rationale, the Green Paper stated the following as the principles and goals of the proposed NHIP, viz. to:

i) "provide health security and guaranteed access to health services for all residents";
ii) "supplement other health financing mechanisms such as general taxes and private health insurance";
iii) "improve the availability, efficiency and quality of health services";
iv) "improve public-private collaboration in the provision and financing of health services"; and
v) "enhance the role of individuals and communities in sharing responsibilities of care".

The following were identified as the key features in the establishment of the NHIP:

i) **Universal Coverage:** all residents of Jamaica regardless of age, income or health condition would be eligible for membership;

ii) **Mandatory Insurance:** all residents would be required by law to have and contribute towards health insurance for at least those services in the "Standard Benefit package";

iii) **Standard Benefit Package (SBP):** would comprise inpatient hospital care as well as drugs and diagnostic services prescribed during ambulatory visits. Other services would be included in later phases;

iv) **Subsidies for the Poor:** the Government would take responsibility for paying the premium for the Standard Benefit Package on behalf of the poor;

v) **Choice of Provider:** insured persons would be able to access health services from public as well as private providers;

vi) **Choice of Insurer:** persons seeking to buy insurance for the Standard Package would be able to choose from among private and public health insurance carriers;

vii) **Competing Public Health Insurance Company (PHIC):** a new public health insurance company would be set up to compete directly with private carriers and would offer the Standard Package as its main product;

viii) **Catastrophic Care Fund (CCF):** this fund would be established to provide grants to individuals seeking expensive and sophisticated care not covered in the Standard Package;

ix) **Regulatory Body:** a new regulatory body called the Health Insurance Commission (HIC) would be established to oversee the operations and operators in the NHIP;

x) **Quality Control by Ministry of Health:** one of the functions of the restructured Head Office of the Ministry of Health would be to develop and monitor quality of care standards in respect of services in the Standard Package (and all other health services in Jamaica).

Details on the administrative system, benefit catalogue, contribution percentage and sharing arrangements between employers and employees, contracts with and reimbursement of providers and copayments were not specified in the Green Paper since these were still being researched. The supplementary document Draft NHIP Policy Framework and Design Implications (1998) provided some more details on key policy

and operational issues and the recommended MOH positions on issues such as defining eligibility for membership, waiting periods, enrolment, identification of the poor, use of the National Drugs Formulary and generics, treatment protocols, review and revision of the Standard Package, complaints mechanisms, penalties, sanctions and copayments.

In terms of getting public responses and feedback on the proposals the MOH embarked on a four-pronged consultative approach with the Minister of Health, Permanent Secretary and officers of the newly established Health Reform Unit as the principal spokespersons and advocates for the Plan. Firstly, copies of the Green Paper were made available to key stakeholder groups, the media and other members of the public and invitations were extended to send their comments to the MOH by a fixed date. Secondly, senior personnel from the MOH presented the proposals and fielded questions in a series of interviews with the print and electronic media. This also included specific articles submitted to the print media for publication. Thirdly, consultation and discussion sessions were held with several groups throughout the country such as hospital and health staff, associations of health professionals, trade unions, employer groups, health insurance companies, parent-teacher associations and other community groups. Fourthly, a Steering Committee comprised of selected stakeholders was set up in 1998 to discuss the proposals and to make appropriate recommendations for changes and implementation to the Minister of Health. The Committee's membership included representatives from the Ministries of Health and Finance as well as organisations of physicians, nurses, pharmacists, health service executives, health insurers; trade unions and employer groups.

The NHIP proposals generated national interest and controversy. As defined by Walt (1994), some of the key characteristics of major public and national policy issues are:

i) they involve 'high politics' or decision at the national level;
ii) their impact will be widespread;
iii) they will be highly visible and will involve significant changes in the status quo;
iv) they require major inputs in terms of administration and technology;
v) they tend to be part of a major programme of change some or many of which may be (or have been) unpopular.

The proposed NHIP exhibited all the characteristics outlined by Walt for a major national or public (as against a purely departmental or sectoral) policy. Firstly, as a national programme mandating membership by all residents it would require debate and executive and legislative "decision-making at the highest levels". It would also involve "high

politics" since each of the three leading political parties cited the establishment of some version of an NHIP as one of their major innovations with respect to financing health services (Manifestos of the ruling People's National Party,1997, the opposition Jamaica Labour Party, 1997 and the National Democratic Movement, 1997). Both the PNP and JLP, having alternated the reins of Government since the 1950's, claimed paternity for the broad proposal of an NHIP. The newer NDM (established in the early 1990's) castigated both parties for much talk but no action over the years and highlighted an NHIP as one of their priorities for the health sector. While there was some consensus on the idea of an NHIP, there were critical differences in the policy options, technical features and implementation arrangements espoused by each party.

Secondly, its "impact will be widespread" since all residents would be required to become members and to have health coverage for at least the Standard Benefit Package. Also, additional contributions (to current income tax and deductions for the National Insurance Scheme, National Housing Trust and education) would be required from all members of the working population and business firms despite being faced with an environment of negative or minimal economic growth, closure of companies, retrenchment and rightsizing in the public and private sectors. The benefits (improved access to care in the public and private sectors and less out of pocket spending) would also be available to all.

Thirdly, it would "involve significant changes in the status quo" with the poor and other uninsured population groups becoming part of an insurance programme and having access to private care as other groups; health service providers having to adjust to new relationships with patients as 'insured persons' and as 'clients' and a new regulatory body for health insurance being proposed which would be responsible for monitoring the activities of health insurers and health providers and imposing penalties where necessary.

Fourthly, it would require "major inputs in terms of administration and technology" since health insurance activities would be expanded to include the entire population as compared to 13% of the population who were covered in 1997. Investments would be needed by both private insurers and the proposed new public insurer for infrastructure, staff and information systems to deal with enrolment, collection, compliance, claims processing, complaints resolution and accountability.

Fifthly, it was part of larger reform programmes being undertaken in the public sector as a whole (the Public Sector Modernisation Project which commenced in 1996) and the health sector in particular (the Health Sector Reform Programme in 1997). Both

programmes had to deal with much displeasure from particular groups over certain activities such as privatisation and contracting in the public sector and decentralisation of the management of services in the public health system.

Given its scope, content, timing and likely impact it was inevitable that interest groups and stakeholders in and beyond the health sector would have differing views on the NHIP proposals and how best the proposals should be configured to maximise their interests.

5.4 Political Mapping of Stakeholders

a) Key Stakeholders, Interests Represented and Interest in the NHIP Proposals

The criteria for identification and selection of key stakeholders (based on characteristics outlined by Reich, 1994 and Walt, 1994) were discussed in Chapter 3. Using Reich's (1993) political mapping framework to identify categories by sectors and sub-sectors, 16 stakeholders--individuals and groups--were considered to have substantial interests in the NHIP proposals. As discussed in Chapter 3 (and shown in Table 3.1), these included: senior officials in key Ministries (Health, Finance and Planning and Labour and Social Security); representatives of health professional groups (physicians; nurses; managers); commercial sector (big and small businesses); health insurance industry (profit and non-profit companies); and organised labour.

Table 5.1 indicates the interests represented by stakeholders, the reasons for their interest in and concern over the NHIP proposals and the level of their influence (high, medium or low) depending on the extent to which they are consulted on selected national development policies and in this specific case, health and the NHIP. This is supplemented by information in Table 5.2 which summarises key aspects of the responses to the GPP proposals by some key stakeholders.

Table 5.1 Sectors and Stakeholders, Their Interests Served / Interest in the NHIP, and Influence on Policy

Sectors and Stakeholders	Interest Served/Interest in NHIP	Influence
A. Public		
1) Health		
i) Administrative		
• Permanent Secretary, MOH	Responsible for overall administration and performance of the MOH. Principal driving force behind the HRP. Also, one of the main authors of and spokesperson on the NHIP Green Paper.	High
• Director, Health Reform Unit, MOH	Responsible for administration of the broad-based HRP. Major contributor to and spokesperson on Green Paper since a functional NHIP is key component and success indicator of the reforms.	Medium
• Director, NHIP Unit, MOH	Responsible for managing pre-implementation and public outreach activities for the NHIP. Establishment of NHIP is critical indicator of performance and may lead to key role in the proposed public health insurance company.	Medium
ii) Technical		
• Chief Medical Officer, MOH	Responsible for regulatory and technical aspects of health planning and service delivery in the public sector and oversight of private health sector activities. Feels NHIP can address some of the chronic underfunding issues in health. Prefers a greater share of resources (existing and new such as NHIP) for population-based and primary care activities.	High
• Senior Medical Officer, Secondary and Tertiary Care Services, MOH	Responsible for operations of public secondary and tertiary care facilities. Faced with budgetary constraints and criticisms of hospital services, the NHIP is seen as a source of additional financial resources to improve the availability and quality of these services.	Medium
2) Finance • Ministry of Finance	Manages budgetary, financial and fiscal objectives and policies of government. Objective is to ensure any commitments to NHIP by MOF are kept in line with overall fiscal targets, current and projected, thus eliminating unprogrammed fiscal demands.	High
3) Planning • PIOJ	Responsible for socio-economic research and planning for national development programmes. The Institute's role includes providing inputs to and monitoring developments in health to ensure initiatives such as NHIP are consistent with overall social and economic plans.	High
4) Social Security • NIS, Ministry of Labour	Responsible for administration of the social security/national insurance scheme (requiring a 5% deduction from wages and salaries). Concerned about impact of new NHIP deduction and implications of any option to use limited NIS' expertise and infrastructure to collect contributions especially from informal workers.	Low

Sectors and Stakeholders	Interest Served/Interest in NHIP	Influence
B. Professional		
1) Doctors • MAJ	Professional organisation for advancing the interests of GP's and specialists. The MAJ is normally consulted by government on major health policies and characteristically addresses health issues as "protector of the public's health". Concerned over implications of NHIP proposals e.g. exclusion of ambulatory visits in the Standard Package yet dependence on role of GP's as gatekeepers; inclusion of catastrophic care coverage; clauses on quality standards, prescribing behaviour and reimbursement.	High
2) Nursing • NAJ	Professional organisation for advancing interests of nurses—usually consulted on key health issues. The NHIP will place additional administrative, caring and cost-sharing burdens on nurses. Additional compensation will be an issue.	Medium
3) Health Managers • JAHSE	JAHSE promotes the role of professional health managers and administrators in the public and private sectors. Concern is over the implementability of the NHIP proposals e.g. investment in Information Technology which will be needed; processes for billing; amount and timeliness of payments; constraints in responding to increased competition for patients.	Low
C. Business		
1) Big Business • JEF	Umbrella organisation to advance the interests of employers in large and medium-sized businesses. NHIP proposals will require compulsory shared contributions by all employers--these new costs could affect competitiveness, profitability and survival especially by firms with current private or self-insured health plans.	Medium
2) Small Business • SBAJ	Umbrella organisation to advance the interests of small businesses. The NHIP proposals will require participation by all small business owners. These additional costs may affect their survival and concessions may be needed such as lower premiums or support in sharing contributions.	Low
D. Insurance		
1) Profit • LICA	Umbrella organisation to promote the interests of for-profit life insurance companies--some have large health insurance portfolios. Concerned that the proposed establishment of a public health insurance company may threaten their market and membership of 12% of the population (in 1997). Prefers government to contract private carriers to administer NHIP.	Low
2) Non-profit • BCJ	BCJ is a private, "non-profit" health insurance company. It administers the current HI plan for Government workers and pensioners. Proposal for a public HI company seen as major threat. Prefers government draw on BCJ's experience to administer NHIP.	High
E. Labour		
• JCTU	Umbrella group to advance the interests of unionised workers (about 25% of all workers). Unions recognise need for better health services but concerned over another deduction from PAYE workers while informal sector workers receive similar benefits but contribute little. Also, concern over workers' health plans already negotiated with private carriers.	High

Source: Author's compilation

Table 5.2 Responses and Perspectives of Some Key Stakeholders on the NHI Proposals

(paraphrased)

Entity	Response
Nursing Association of Jamaica.	➢ The NAJ supports the plan in principle and looks forward to its implementation. ➢ Areas of concern--Plan states that everyone will be required to have insurance and any uninsured person seeking care will be required to meet the full cost--if persons needing care have no money, will he/she be denied care or will there be a billing system to pay later? Will ambulatory (day) surgery be included to cut down on inpatient bed occupancy? ➢ Caring and administrative burden on nurses will increase.
Jamaica Employers Federation.	➢ A number of concerns regarding implementation.. ➢ Health in Jamaica has achieved success with limited resources on the basis of well designed primary and prevention health care measures. The NHIP seems contrary to this approach. ➢ Concerns regarding the financial viability and the possibility that NHIP could develop into a strain on revenue as opposed to a provider of additional resources. ➢ There does not appear to be an effective system for the collection of premiums from persons not registered under the PAYE system. ➢ Current health carriers are finding it extremely difficult to contain abuse without increasing premiums—how will NHIP prevent and address this inevitability? ➢ How will the poor and indigent be determined? ➢ JEF is not optimistic that the budgeted collections will be realized to support the plan. PAYE workers could be called upon to supplement this shortfall.
Life Insurance Companies Association. Position Paper on NHIP, May, 1998.	➢ LICA supports the NHIP. If run properly it will enhance the quality of health care in Jamaica and can create opportunities for us. ➢ The Standard Package is not an issue as we have the experience marketing and administering health plans with a variety of benefits. We acknowledge the problems associated with placing an emphasis on tertiary care only. ➢ Marketing opportunities exist for the private insurers with the introduction of NHIP. However, LICA is opposed to the setting up of a Government insurance company to sell the standard package. It will have an unfair advantage in premium rating structure. Private insurers already have expertise and capability to market and administer health plans. They can tender for the block of business that the Government will be responsible for. ➢ LICA members cannot be expected to absorb the underwriting risk for the medically indigent. ➢ On the Catastrophic Care Fund--very specific guidelines will be needed to avoid abuse since it will be funded by a cess on all insurance premiums.
Planning Institute of Jamaica.	➢ NHIP is necessary intervention given current cost of health care. However, it may be problematic given existing economic / social climate. ➢ On targeting—there is need for clear definition of indigent and medically indigent. ➢ There is need to spell out services in the benefit package. Also, the rules of access to the catastrophic fund. ➢ Other concerns--the focus on hospital services could lead to over-utilisation and by extension an increase in health expenditure; the exclusion of ambulatory care denies the poor access even to that very first level intervention.

Entity	Response
Ministry of Finance and Planning.	➢ Plan is output driven given guaranteed benefit package --any shortfall in revenues from premiums will pressure a subsidy from Government rather than a reduction in services covered. So Government may be trapped into making uncapped and unprogrammed subsidies on an item that is rising faster than cost of living and output growth. ➢ On the benefit package--to cover secondary and tertiary health care is worrisome in its implications for the budget. Demand is highly price sensitive and the NHIP by cheapening the cost of insurance coverage will effectively create demand for more health care. ➢ Recommended services offered under the plan should be supported wholly by premiums.
Medical Association of Jamaica. Response to NHI Proposals. MAJ, 1997.	➢ The NHIP must have a "strong built-in primary preventive component". It is "neither common sense" for the NHIP to introduce the more complex high cost secondary care in the first phase of the plan "nor does it make economic sense". Introducing the programme on a "phased basis is a perfectly rational principle but building the roof of the house before the foundation seems outside the limits of rational thinking". ➢ Clearly if the government pays for the indigent it follows that the taxpayer will be paying both for himself and the indigent. Government's payment for the indigent may very well render the NHIP economically non-viable. ➢ What incentive is there for a patient to embark on a healthy lifestyle or participate in primary care activities when he knows that he is guaranteed hospital bed and diagnostic services he has already paid for? That is why the MAJ is convinced that the "conceptual framework of this NHIP is fundamentally flawed, unworkable and will in its present form be a miserable failure". ➢ Any restriction of the patient's right to choose his doctor or his insurance company with whom he has built up confidence over many years will be viewed very seriously. ➢ How the government justifies using pooled national funds from the NHIP to provide financial assistance to selected individuals who require access to very high cost overseas treatment and defines this as its catastrophic care fund is beyond comprehension. ➢ "If the thinking is to replicate the hospital-based high cost managed care system of the USA in Jamaica then this is akin to forcing a large square peg in a small round hole; it is conceptually flawed, impractical, non-viable, and downright stupid". ➢ What is clear however is that "the government neither has the experience nor the capability to implement a health insurance programme". We propose that the existing health insurance companies be given the responsibility for implementing the NHIP and be contracted through a system of open bidding. ➢ There must be a limit of 10%--15% for the cost of administration of the insurance program.
Dr Winston Davidson. President of MAJ in Issues "Introducing Taxes through the Back Door" Sunday Herald. 13 July 1997	➢ "The MAJ is not against insurance but they are against this specific type of insurance". ➢ The public is asked to pay "what we regard as a tax to utilize essentially government hospital beds". The use of a government hospital no longer rests on the need for health care but on an insurance policy. In other words "bureaucrats will decide whether you get health care". ➢ Perhaps it is because we are close to the people and know their suffering why we have to deal with this issue so passionately. It is not possible for us to be part of a scheme that is going to cause not only undue harm but will threaten the lives of the Jamaican people. "We will not support this particular scheme and we say this from a position of absolute integrity" ➢ There is no profession in this country that has consistently given of itself to the people like the medical profession. And that is why our voices will be heard speaking on behalf of our patients for whom we are responsible.

The data indicate a wide range of perspectives, expectations and concerns among the stakeholder groups and some clear differences even within groups. For example, the interests of different functionaries in the MOH revealed quite distinctive perspectives. While the Permanent Secretary (PS) and the Directors of the Health Reform Unit (DHRU) and the NHIP Implementation Unit (DNHI) had broadly similar interests in and agreement on the NHIP proposals, the same was not reflected in respect of the technical members such as the Chief Medical Officer (CMO) and the Senior Medical Officer (SMO/STC) who were more concerned with the practical impact on the provision of specific services (population based services in the case of the CMO and hospital based services by the SMO/STC).

At a broader level, the interests of the MOH members as part of the overall public sector were not always in line with those of other officials from the MOF whose concern was consistency with 'overall fiscal targets' and 'avoiding unprogrammed subsidies' from Government or the PIOJ's primary emphasis on consistency with macro-plans and development commitments in other sectors as well as the likelihood of excess demand. The primary concern of the National Insurance Scheme (responsible for managing existing social security plans) was the extent to which its expertise and infrastructure would be called upon to facilitate the implementation of the NHIP.

Among the professional groups, the Medical Association of Jamaica, MAJ, (whose membership includes a mix of GP's, specialists and junior doctors with a larger percentage of GPs than hospital-based doctors) was seen as an authoritative voice to be consulted on key health matters. For them, the exclusion of ambulatory visits to private doctors for primary care and specialist services from the Standard Benefit Package, alongside the inclusion of catastrophic care services were viewed as major weaknesses in the NHIP proposals. In addition, they felt the establishment of a public health insurer as well as proposed new regulatory and utilisation review provisions would place the activities of members under closer scrutiny by public bureaucrats (MAJ, 1997). The Nursing Association, already grappling with issues such as low salaries, shortage of nurses and overworked members were concerned over the possibilities of having to undertake additional administrative and caring burdens without increased compensation and the status of those without insurance coverage.

Health managers as members of JAHSE were drawn mostly from public and private hospitals and were charged with securing the business interests of their facilities. Their anxieties were over the arrangements for billing and reimbursement of services; the

amount and speed of claims settlement and the size of investment costs in information technology to network and interface with the NHIP.

From the private sector, both the non-profit Blue Cross of Jamaica (BCJ) and the for-profit members of LICA were keenly competing for market shares and saw mixed possibilities for more business on the one hand but reduced business on the other depending on the establishment or otherwise of a competing public health insurance company. In addition, they were unhappy over the proposed establishment of a new health insurance regulatory agency.

Employer and small business groups were concerned at the likely impact on their costs as contributors since they would be faced with an additional statutory deduction which could erode their competitiveness, profitability and even survival in the marketplace. On the other hand Trade Unions, while keen on the universal coverage proposals, were anxious over the magnitude of the deduction from members' wages and the extent to which their current benefits in private health insurance plans would be affected.

b) Sample of Views and Comments from General Public and Minor Stakeholders

As indicated in Chapter 3 on Methodology there were clear reasons for the selection of the above group as key stakeholders. However, since neither of these individuals nor groups may be said to be the 'average person in the street' or a community-based organisation, the issue remained as to whether their interests and views may be deemed as representative of the general public. In the absence of an organised body such as a patient or citizens health group, local politicians pointed out that in parliamentary democracies such as Jamaica where political parties contend for power at prescribed intervals it is the Member of Parliament and parties in power and opposition who assume this role as "representative of and spokesman for the people". This did not deter groups such as the MAJ, the JCTU and even the SBAJ from portraying themselves as speaking on behalf of the public and seeking the interest of the public.

In the data collection process, the views and positions of the general public as well as 'minor' less influential groups such as the Jamaica Association of Public Health Inspectors, Jamaica Physiotherapy Society, Jamaica Cancer Society and several non-health organisations (e.g., Parent-Teachers Associations) were also monitored and recorded. The data came from letters to the mainstream newspapers; call-in radio programs as well as from comments and queries in community and other meetings held

by teams from the MOH. Excerpts of comments and queries on the NHIP proposals by the general public and some of these minor stakeholder groups are presented in Table 5.3.

Overall, there were mixed reactions to the NHIP proposals from the general public and 'minor' stakeholders. In organising and structuring the diverse comments and views articulated, four broad groups were identified: those who were opposed to the proposals; those who expressed conditional support indicating that they did not trust the current Government to administer the plan in the public interest; those who were fully supportive; and those who preferred to wait and see.

For the first group (opposed), the planned NHI was seen as another tax or tax in disguise. They felt that they were already paying for health services through existing tax deductions and that neither the availability nor quality of care in public facilities was conducive to implementing the NHI. Some also indicated that they had no desire to be part of a plan that took their money to support other citizens who preferred to be unemployed while jobs were available or who did not take care of their health but expected someone else to pay for their care. In addition, some focused on selected aspects of the NHIP proposals such as the exclusion of visits to doctors in the Package as providing enough reason for their opposition. Another factor mentioned was the poor management of other statutory deductions by public agencies such as the National Insurance Scheme and National Housing Trust as well as the Ministry of Finance's handling of the Education Tax which was deducted from incomes for education but ended up paying government debt – these were posited as indicative of what the NHIP could become.

Table 5.3 Views on NHIP Proposals from the General Public and Some Minor Stakeholders

Entity	Views
The Incorporated Masterbuilders Association. of Jamaica..June 12, 1997 Letter from Mr Forbes, President, sent to Daily Gleaner and Daily Observer	➢ ...if an entity...already has in force a health insurance plan, how will the NHIP and the existing plan co-exist without increasing the cost... ➢ ...since Jamaicans already pay between 33-50% of their salaries in a variety of taxation, what effect will this contribution have on the already small..disposable income ...what is to be the level of the mandatory contribution... ➢ ..prompt clarification would assist....to understand more fully the implications of what we feel can be a positive step in the promotion of better and more cost effective healthcare'...
Jamaica Cancer Society.	➢ Several kinks need to be worked out... why is there no provision for assistance with physician fees. These are not regulated, vary widely and can often be the largest cost factor in a particular illness... ➢ This fund like National Insurance Scheme, National Housing Trust and others will provide minimal benefit to a very small portion of the population... ➢ Unfair competition... with Govt setting up a company to run alongside private companies... are you nullifying private insurers?
TOB Goldson. (former PS in Health) in Daily Gleaner. 1 November 1996	➢ The NHIS Revisited... while we congratulate the National Housing Trust [for its 20 years] I believe that its ascendancy 20 years ago was the leading cause of the death of a NHIS at that time... The idea of a national health scheme was well conceived and advanced 20 years ago and the method of funding it was also... well established but lo and behold a last minute shift altered the course of history.
Opinion... "Developing a just health care system for Jamaica" Dr Derrick Aarons. In The Daily Observer 23 August 1997	➢ ...any serious effort to build a sustainable national health care system should not begin at the secondary (hospital) level but with the institution of good primary care. Consequently, efforts to develop a just health care system should begin with a solid core of primary and emergency care and should cater to the needs of those among us who are most frail. ➢ Ethically, every civilized society should guarantee all of its citizens a decent basic level of health care regardless of their ability to pay for it. Beyond this basic minimum however whether financed through government taxation or employer based plans patients may have to spend their money to gain additional benefits. ➢ Within the health care system itself priority strategies would include building a good public health system while developing a solid core of primary and emergency care. ...In light of all of this it is clear that the proposed Green Paper [on NHIP] ...is not based on a sound moral premise. ...we should seize this opportunity to build a comprehensive health care system which provides universal access to a minimum level of decent health care... at the more often used primary care level as well as the more expensive secondary level.

Source: Author's compilation

To those conditionally supportive, the proposals seemed quite acceptable but the Government behind the proposals was not. For them, the Government which had campaigned with the slogan "we put people first" during the election period was doing just the opposite when in power. Their proposed imposition of contributions for an NHIP was cited as another example (alongside increased user fees in 1993 and 1999 for health services) of turning its back on pledges of accessible care for all. In addition, its continued use of public funds (since 1996) to bail out several failing private financial enterprises rather than making these funds available for social development left many questioning the motive for the proposed NHIP. To some it was seen as another case of Government's dereliction of its responsibility in health.

On the other hand, there were many others who welcomed the NHIP proposals and saw NHI as a mechanism to really ensure health for all without discrimination at the health facilities. This was a particularly common view among many persons who either had no health insurance coverage, who were refused health insurance from private carriers and among the poor. They saw greater access to health services in the private sector and assistance in getting overseas care for complicated cases as desirable provisions in the NHIP.

The 'wait and see' group preferred to watch from the sidelines how serious was Government's commitment to the proposals, which groups were supporting or opposing and the early implementation results. This group comprised persons who seemed familiar with major policy announcements and promises from (different) governments and who did not feel strongly enough about the NHIP proposals. Many in this group wanted to wait for the announcement of the percentage deduction and copayment before choosing a position.

(While it was difficult to quantify the size of each group or to measure the passion with which their views were expressed, it may be said that there seemed to be more persons in the 'wait and see' and 'conditional support' group than in the other two).

At another level, the 2 major opposition parties, despite clear provisions for implementation of an NHIP in their manifestos, disagreed with the proposals. The spokesperson on health for the Jamaica Labour Party indicated that:

> *'the JLP will not support the NHIP...because it is not in the best interest of the Jamaican population...[we] support a standard benefit package but cannot defend the exclusion of coverage for doctors visits...It is inconceivable that the Government having already wasted an inordinate amount of time in implementing a plan proposed 12 years ago, has failed to incorporate the features in the Plan' (media interview with Ms Shirley Williams reported in The Daily Gleaner of 2 May, 1997).*

In addition, the National Democratic Movement spokesperson commented that 'the plan is deceptive and will only extract more money from the population for the same inadequate health care system' (Interview quoted in The Daily Gleaner, 12 July, 1997).

In many respects the issues and concerns raised by the general public, minor stakeholders and opposition parties on design and implementation of the NHIP were fairly similar to those from several of the key stakeholders. As such consideration of these concerns have been taken up in the analysis of comments from the latter group.

c) Responses by Key Stakeholders to the Specific Proposals in the NHIP

In addition to their broad responses and views, key stakeholders were asked in the interviews to comment on each of the 10 specific proposals of the NHIP (these are spelt out in Section 5.3). Table 5.4 provides a summary of these comments. Broad agreement with a proposal is depicted as "Yes" in the Table while general disagreement is shown as "No". (Few stakeholders answered 'yes' or 'no' immediately or solely—most offered some explanation. The intensity and explanations of their 'yes' and 'no' were varied.).

In some cases stakeholders agreed with the principle encapsulated by a proposal but insisted on qualifying that agreement with a specific statement reflecting their approach to its implementation. For example, the PS/MOH agreed with the principle of a public health insurance company but felt that rather than trying to do everything on its own it should explore the possibilities of sub-contracting certain functions such as collections and claims processing if these could be done more economically by other agencies.

Table 5.4 Summarised Views of Stakeholders on Core Proposals in NHI Green Paper

Stakeholders \ NHI Core Proposals	Universal Coverage	Mandatory Plan	Standard Benefit Package	Subsidies for Poor	Choice of Provider	Choice of Insurer	Public Insurance Company	Catastrophic Care Fund	New Regulatory Body	Quality Control by MOH
Public Sector										
PS Health	Yes	Yes	Yes	Yes	Yes	Yes	Yes: Sub-contract	Yes	Yes	Yes
DHRU	Yes	Yes	Yes	Yes	Yes	Yes	Yes: Sub-contract	Next Phase	Yes	Yes
DNHI	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CMO	Phased	Yes	No	No	Yes	No	Yes: All members	No	Yes	Yes
SMO/STC	Yes	Yes	Phased	Yes	Phased	No	Yes: All members	Next Phase	Yes	Yes
MOF	Yes	Yes	Phased	Yes: Limits	Yes	Yes	Yes: Sub-contract	No	No	Yes
PIOJ	Yes	Yes	No	Yes	Yes	Yes	Yes: Sub-contract	No	No	Yes
NIS	Yes	Yes	Phased	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Professional										
MAJ	Yes	Yes	No	Yes	Yes	Yes	No	No	No	No
NAJ	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Limited	No	No
JAHSE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Limited	Yes	Yes
Commercial										
JEF	Phased	No	No	No	Yes	Yes	No	No	No	Yes
SBAJ	Yes	Yes	No	Yes	Yes	Yes	Yes	Limited	No	Yes
Insurance										
LICA	Yes	Yes	No	Yes	Yes	Yes	No	No	No	Yes
BCJ	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes
Trade Union										
JCTU	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
% Yes	88	94	31	88	94	88	75	25	56	88
% No	0	6	50	12	0	12	25	44	44	12
% Other	12	0	19	0	6	0	0	31	0	0

Source: Authors compilation

Also, among those who generally agreed with the proposal for a Catastrophic Care Fund, some like the NAJ, JAHSE and the SBAJ preferred a more "limited" Fund i.e., resources should be used to fund care for the poor only rather than open to all or for cases which are treatable rather than all complicated cases. Again on the Fund, the DHRU and SMO/STC felt that while it was essential it should be introduced in a next phase i.e. at some point in the future.

The responses, explanations and preferred positions of stakeholders that accompanied their 'Yes' or 'No' in relation to each of the ten specific proposals are discussed below.

i) Universal Coverage

Most stakeholders (88%) agreed on the need for universality in the Plan. However, the CMO and the JEF had certain reservations. For the CMO, a universal plan was only possible if the Government gave a commitment to timely and total servicing of its premium obligations on behalf of its workers and the pool. Failing this, he stated that the NHIP should target the working population only while the poor would continue to have access to public health services. The JEF shared a similar opinion with respect to the poor having access to public health services so that employers did not have an additional burden to share premiums which may be set at above-average levels to subsidise the poor.

ii) Mandatory Plan

With the exception of the JEF, all other stakeholders (94%) felt that a mandatory plan was desirable to avoid what JAHSE described as free-riding, adverse selection and cherry-picking and to increase the likelihood of compliance. The JEF indicated that given the hostile economic climate many firms would collapse or have to raise prices if they were compelled to offer health insurance to all workers. The JEF also stated reservations on compliance and collection of contributions from informal sector workers given the relatively weak performance of the revenue department and National Insurance Scheme.

iii) Standard Benefit Package

More stakeholders (50%) disagreed than agreed (31%) with the proposed components of the Package i.e., prescription drugs and diagnostics arising from ambulatory visits as well as inpatient hospital care. Their fundamental concern was the exclusion of ambulatory services offered by GP's and specialists from the Package - this was seen as unacceptable and according to the JEF contrary to primary and preventive health care measures. The MAJ felt that such an exclusion made the NHIP "conceptually flawed and inoperable" since it sought to focus on the "most expensive parts of the health system" (MAJ, 1997)

while still wanting the GP's to operate as gatekeepers. Within the MOH group there were clear differences on this proposal with the CMO who wanted ambulatory visits and health promotion activities in the Package being at variance with other members. Another dimension of the disagreement over the Package came from the insurance group, BCJ and LICA, who felt that persons should be free to buy whatever package they desired rather than be compelled to purchase a fixed Standard Package. In addition, a third group (19%) wanted a phased standard package with the SMO/STC and NIS wanting the starting package to contain hospital care and surgery which caused the major financial burden on patients; the MOF wanted to start with primary/ambulatory care. Among those who supported the Package (31%) only the NAJ and JAHSE agreed with the logic of the PS, DHRU and DNHI (the chief framers of the NHIP) that access to primary and specialist care was not the major issue nor financial burden facing patients.

iv) Subsidies for the Poor

With the exception of the CMO and the JEF, all other stakeholders (88%) supported the proposal for Government premium payments on behalf of the poor. The CMO indicated that there was no need for such subsidies since the Government was already paying for treating the poor in public health facilities while the JEF was concerned with the additional cost burden imposed on employers to meet these costs. The JEF also felt that in the absence of a properly functioning system to identify the pool such a proposal would lead to widespread abuse since it would encourage many non-poor to declare themselves poor.

v) Choice of Provider

Recognising the key role of private providers in facilitating expanded access to care, all stakeholders with the exception of the SMO/STC agreed to this proposal. The SMO/STC wanted a phased approach to the choice of provider starting with public sector health facilities since it was felt that the quality of care was too uncertain in the private sector especially in the private hospitals.

vi) Choice of Insurer

With the exception of the technical members of the MOH group, all other stakeholders (88%) supported the proposal for a choice of insurer. According to the CMO and SMO/STC, providers would have too much administrative burden in having to handle claims procedures from several different insurers. They felt that a single large insurer-payer managing the entire Plan would be more desirable.

vii) Competing Public Health Insurance Company

Stakeholders were divided in their positions with respect to this proposal. Some like the MAJ, JEF, LICA and BCJ strongly disagreed (25%) and felt that establishing a public company was unnecessary and duplicative since several experienced private insurers were already in the market and could be given the task of implementing the NHIP. Others like the SBAJ, JCTU, JAHSE, NAJ, NIS and DNHI were unimpressed with the poor quality of services and exclusionary practices of the private insurers and felt that a new public company would operate more in the interest of the public and would not be as selective in their membership as the private insurers. Another viewpoint came from the PS/MOH, DHRU and the MOF who supported the proposal for a competing public company but felt that it should explore the possibilities for sub-contracting some services to achieve greater efficiency. A different perspective was presented by the CMO and SMO/STC who preferred a single public insurer since it would be less burdensome on health providers who would interact with one company and not a multitude of insurers.

viii) Catastrophic Care Fund

There was much division in the views of stakeholders on this proposal. Some like the PS/MOH, DNHI, NIS and JCTU (25%) felt that such a Fund would provide real benefits to the poor who could not afford expensive treatments abroad and who were forced to bear their illness or depend on the inconsistency of public donations and the generosity of the MOH. Others like the CMO, MAJ, JEF and the insurance group (44%) indicated that such a Fund was unaffordable and would be subject to political interference in its selection of beneficiaries. Differing views were also expressed by the DHRU and SMO/STC who stated their general support for the proposal but felt that it should be implemented at a later period when the NHIP was firmly established and had the experience to offer other products.

ix) New Regulatory Body

Stakeholders were equally divided in their views on this proposal with just over one-half supporting the establishment of a new regulatory body, the Health Insurance Commission, while the rest felt that the task of regulation could be appropriately handled by the existing Office of the Superintendent of Insurance. The insurance group, BCJ and LICA, offered another perspective: the entire industry should be self-regulating.

x) Quality Control by the Ministry of Health

With the exception of the MAJ and NAJ all other stakeholders (88%) were in agreement with this proposal. According to the MAJ none of the persons determining standards and quality at the MOH are practising professionals and are in no position to mandate what treatments should be provided. The NAJ's view was that the MOH has a history of developing standards in isolation from practitioners and that the MOH is poor when it came to enforcement of these standards.

d) Overall Position of Key Stakeholders in Relation to the NHIP Proposals

Based on the responses of stakeholders to the 10 NHIP proposals a position map or 'forcefield matrix' was prepared (See Table 5.5) to show the location of each stakeholder in relation to the overall NHIP by using a spectrum/scale ranging from High Support to High Opposition. The actual location of a stakeholder on the map also included consideration of the extent to which stakeholders deemed their "Yes" and "No" responses (shown in Table 5.5) as negotiable or not. As such, the MAJ which held strong "non-negotiable" views on several aspects of the NHIP proposals can be placed in the category "High Opposition" while the CMO and JEF who also had strong views were categorised as "Medium Opposition" because some of these were negotiable. The map also links the position of each stakeholder to the degree of influence exerted in respect of policy-making on the NHIP (taken from Table 5.2). Influence is also represented in a spectrum ranging from high to low.

Overall, 11 of the 16 key stakeholders or 69% may be said to be broadly supportive of the NHIP proposals (ranging from high to low). Of these, 6 or 37% were highly supportive. This group included the PS, DHRU, DNHI, SMO/STC, NIS and JAHSE. Of the 5 (31%) who were positioned as broadly opposed, 1 (6%) was highly opposed (the MAJ) and the position of the next 4 (25%) - CMO, JEF, BCJ and LICA - was categorised as medium opposition. Those opposed also indicated that while they were generally supportive of an NHI system they were opposed the particular approach or model presented in the Green Paper.

Table 5.5 Map of Key Stakeholders' Relative Positions on NHIP Proposals and Influence on Policy

	Position on NHIP						
Influence on Heath Policy	**Support:**			**Non-Mobilised**	**Opposition:**		
	High	**Medium**	**Low**		**Low**	**Medium**	**High**
High	• PS	• MOF • JCTU	• PIOJ	----	----	• CMO	• MAJ
Medium	• DHRU • SMO-SC • DNHI	• NAJ	----	----	----	• JEF • BCJ	----
Low	• NIS • JAHSE	• SBAJ	----	----	----	• LICA	----

Notes: PS: Permanent Secretary, Ministry of Health; DHRU: Director, Health Reform Unit, MOH; SMO-SC: Senior Medical Officer, Secondary and Tertiary Care, MOH; DNHIP: Director, NHIP Implementation Unit, MOH; NIS: National Insurance Scheme; JAHSE: Jamaica Association of Health Services Executives; MOF: Ministry of Finance; JCTU: Jamaica Confederation of Trade Unions; NAJ: Nursing Association of Jamaica; SBAJ: Small Business Association of Jamaica; PIOJ: Planning Institute of Jamaica; CMO: Chief Medical Officer, MOH; JEF: Jamaica Employers Federation; BCJ: Blue Cross of Jamaica; LICA: Life Insurance Companies Association; MAJ: Medical Association of Jamaica.

Source: Author's compilation

In terms of levels of influence, only 1 stakeholder (6%) with high influence (the PS/MOH) displayed high support. Similarly, only 1 highly influential stakeholder (the MAJ) displayed high opposition. Others with high influence ranged from medium (MOF and JCTU) and low support (PIOJ) to medium opposition (CMO). Most (numerical) support for the NHIP proposals came from the group with medium influence (DHRU, SMO-SC, DNHI) and low influence (NIS and JAHSE) while most opposition came form those with medium (JEF, BCJ) and low influence (LICA).

To a large extent the NHIP proposals were interpreted in terms of opportunity ('winners') or threat ('losers') or a mix of both by the various stakeholders. In terms of opportunity, there were several facets which were considered:

i) additional financing for cash-strapped health facilities: this was particularly welcomed by stakeholders such as the MOH group, the NAJ and JAHSE. The MAJ also saw it as an opportunity if the contents of the package were changed to include ambulatory visits;

ii) better access to health services by the poor: this was quite appealing to most stakeholders who, acknowledged the deficiencies in the public sector (stock-outs, shortages, postponed surgery, waiting times) and the fact that many of the poor were forced to seek care in the private sector at high cost. On the other hand, the CMO and JEF who felt that access was already being provided in the public sector and that the

contribution requirements on the non-poor to secure access to the private sector by the poor would be burdensome;

iii) affordable health insurance for currently uninsured groups: this was of interest to the NAJ, DNHI and especially members of the SBAJ and JCTU who cited major difficulties experienced by certain groups and individuals in getting and maintaining health insurance cover from the private insurance companies at a reasonable premium;

iv) larger membership, more profits: if configured in the right way i.e., if the proposal for a competing public company was withdrawn, this potential was quite appealing to the private companies comprising LICA and to BCJ since a mandatory Plan would require many more persons to purchase health insurance than the 13% of the population at that time (in 1997-1998);

v) the establishment of a new competing public health insurance company: this was of particular interest to the DNHI as well as to the technical officers in the MOH such as the CMO and SMO/SC. In the case of the DNHI, he felt that a public company would become the largest and most inclusive carrier of health insurance compared to the narrowly selective approach in targeting members by commercial insurers. The CMO and SMO/SC saw the opportunity for the public insurer to become the single insurer-single payer in the health system.

vi) more effective quality control and standards in the health sector: the representatives of the MOH, LICA, BCJ, JEF and the JCTU were quite keen on this since they recognised that more action was needed to address weaknesses in regulations, standards and enforcement in both the public and private sectors. (For the MOH persons this was one of the key components of the Health Reform Program).

In terms of perceived threats there were also several facets considered:

i) loss of membership and profits: this was a major concern to LICA and BCJ if the public health insurance company were established and became a dominant player in the market;

ii) additional costs which could affect competitiveness: these were generally at the forefront of considerations by the JEF and SBAJ who felt that additional statutory deductions in the prevailing depressed economic climate would be burdensome to most businesses and many would collapse. Similar concerns were also expressed by the PIOJ and the CMO;

iii) fiscal burden on the Government to meet establishment costs and premiums for the indigent: these were being scrutinised by the MOF, PIOJ, and JEF who felt that the PAYE groups would be burdened once more to cover these costs and that government would have to shift resources from other priority programs to facilitate NHIP obligations. In a related concern but quite different perspective, the CMO felt that the MOH budget would be reduced since the MOF would now be paying for services through contributions to NHIP rather than allocations to MOH.

iv) loss of earnings , autonomy and leadership in health: this was particularly crucial to the MAJ since earnings could be reduced especially for private GP's and public sector specialists with private practice if the NHIP provided adequate resources to improve services in the public sector. Also, autonomy could be lessened if a dominant public health insurance company or all insurers adopted strict approaches to fee-setting, prescribing and referral patterns.

v) readiness of public health facilities to meet additional demand for services: this was seen as a major obstacle by most other representatives despite assurances from the MOH group that the Health Reform Program was systematically addressing weaknesses and increasing the capacity of the public sector. Also the NHIP would shift some of the demand for services to the private sector thus lessening the burden on public facilities.

5.5 NHIP Design Features as Recommended By Key Stakeholders

a) The Design Issues for Consideration of Alternatives by Stakeholders

Arising from the responses as summarised in Table 5.4 it was evident that there were certain key proposals which led to strong divergent views. These were as follows:

i) the components of the Standard Benefit Package especially in relation to the exclusion of ambulatory visits;
ii) the choice of insurer i.e. whether there should be competing companies including a public company, a single company undertaking all insurance functions, or a public company which could sub-contract operations to other agencies;
iii) the establishment of the Catastrophic Care Fund;
iv) the establishment of a new regulatory body or utilisation of the existing Office of the Superintendent of Insurance (appropriately upgraded);
v) the possibility of phasing in some of the proposals such as the package of services and the Catastrophic Care Fund.

In recognition of the spectrum of positions on the Green Paper's NHI proposals and broad support for some version of contributory Plan, stakeholders were asked to assume full responsibilities of policy-makers and to indicate what they would recommend as the main features of an NHI plan for Jamaica. To secure the specific information from this role-playing exercise and to guide the discussions within a structured but flexible framework, stakeholders were interviewed using a checklist of questions. (A detailed overview of the approach to and conduct of this component of the study was presented in Chapter 3). The questions required stakeholders to focus their suggestions on the following:

i) main reason for introducing an NHI;
ii) alternative financing arrangements which could prove helpful ;
iii) the country or countries whose NHI plan could be seen as models/examples;
iv) role of external agencies in influencing and supporting the choice of NHI Plan;
v) main goals of their proposed NHI plan;
vi) contribution of the NHI plan to the goals of the health sector;
vii) most essential features in the proposed NHI plan;
viii) features of the plan which would be deemed as non-negotiable;
ix) criteria to be used in evaluating the feasibility of the design;
x) ranking of the evaluative criteria;
xi) likely impact of proposed NHI plan on equity in the Jamaican health sector;
xii) likely impact of the proposed NHI plan on efficiency in the health system;
xiii) critical success factors for the proposed NHI plan.

b) Responses and Recommendations of Stakeholders

The interviews produced a reasonably good database of responses and recommendations. However there were some gaps in terms of the adequacy of responses from some stakeholders in providing full answers to the questions. These gaps were largely bridged through reference to data generated from years of participant observation (1997-2001) in tracking and monitoring public statements, comments and articles on NHI matters by stakeholders. A summary of the responses and recommendations of stakeholders from these 2 data sources is presented in **Appendix 5.1.**

i) Reasons for an NHIP

Reflective of the general concerns over underfunding of health services and how the burden of payments should be met, the majority of stakeholders cited "more funds" for health services especially in the public sector and "cost sharing" by individuals, businesses and government as the main reasons for an NHI. However, there were some

concerns expressed and recommendations made by the JEF, SBAJ, LICA, BCJ and the JCTU with respect to "reliability" of funds for the health sector, "equity" in raising funds and the extent to which the funds would be "dedicated " to the health sector.

ii) Financing Alternatives

The most commonly cited alternatives were "higher user fees" (in public facilities), a "health levy" (similar to the existing 5% statutory deductions for housing and education) and the use of higher "sin taxes" on alcohol and tobacco products. The use of "lottery for health" funds; "debt for health swaps" (a reflection of the country's high debt repayment burden) and "re-allocation of expenditure" by government also featured among the listed alternatives. Some stakeholders such as the MOF, MAJ, JEF and LICA asserted that the MOH was not doing a very good job of managing its finances and that "efficiency savings" were possible and could add to the resources available to the public sector. Many stakeholders insisted that the establishment of an NHIP should not rule out the possibilities of utilising some of these financing alternatives.

iii) Country Models

NHI systems in Germany, Colombia, Bermuda and Chile were seen by several stakeholders as possible models whose experiences would be very helpful to Jamaica. Other insurance approaches suggested were those in Canada, Costa Rica and East Asian countries. Even though NHI in Trinidad and Tobago was only in the proposal stage, some stakeholders had information on what was planned and felt Jamaica could benefit from an examination of that proposal. Managed care plans in the United States were cited both for positive and negative reasons. For the MAJ these plans were pointed out as clear examples of what an NHIP should not do while for the MOF, PIOJ, JEF, LICA and BCJ there were several features which could be meaningfully incorporated in Jamaica.

iv) External Agencies

Almost all stakeholders indicated that the IDB, World Bank and IMF played (or could play) important roles in the implementation of an NHIP. USAID was also mentioned by some. Surprisingly, neither the ILO nor the International Social Security Association were cited by any of the stakeholders given that the JEF and JCTU were quite familiar with the social health insurance policies of these organisations. The influence of the IDB and World Bank were viewed in respect of their ongoing involvement in the Health Reform Programme (and Public Sector Modernisation Programme) as well as in terms of likely sources of start-up capital for financing the investment costs of an NHIP.

v) Main Goals

Health security, improved access, improved availability/quality of services and more private-public collaboration were seen as the main goals of an NHIP by the majority of stakeholders. The emphasis on health security and improved access seemed to be based on the general recognition of the three-tiered health system in Jamaica where those with adequate resources could access private care locally (often paid through private insurance plans), those with limited resources had to depend on an erratic public health system while the very well-off accessed private care abroad. It was stressed by the PS/MOH and DHRU that an NHIP should be seen as a "supplementary" financing mechanism as against the "dominant" source of health financing as envisaged by the DNHI.

vi) Assisting the Health Sector

The responses of stakeholders were quite dispersed in respect of this question. The benefits of more resources in terms of reducing stock-outs, waiting times and waiting lists were cited by several stakeholders as the major benefit to the health sector especially the public health system. Some like the DHRU, MOF and JCTU felt an NHIP would encourage more "personal" and "community" responsibility for health while others like the MAJ, JEF, SBAJ and BCJ stressed its role in promoting "client-oriented services". For the PS/MOH, PIOJ and NIS, the benefit of a "basic package for all" was seen as the main contribution to the goals of the health sector.

vii) Key Features

Stakeholders generally followed the pattern of their responses to the proposals in the Green Paper (as shown in Table 5.4) in outlining their recommended features on an NHIP. The majority felt the plan should be compulsory with a mixed package (primary and secondary care) which could be bought from competing public and private insurers and which was well-regulated. Both LICA and BCJ preferred custom-designed packages rather than a nationally-defined package. The MAJ suggested that the National Insurance Scheme should be the plan administrator and coverage should be provided by private companies contracted by the NIS. On the matter of a catastrophic care fund, the majority of stakeholders recommended its exclusion or deferral to a later phase.

viii) Non-negotiable Aspects

For most stakeholders a compulsory plan with a mixed package of primary and secondary care services, choice of insurer and provider and subsidies for the poor were the main features which were seen as non-negotiable. For some like the CMO and PIOJ

administrative ceilings (for insurance overheads) were critical factors in the design while LICA and JEF insisted on not having a new public company in the health insurance marketplace. The NAJ wanted 'staff incentives' as a priority in its design and the SBAJ cited lower premiums for its members among its priorities.

ix) Criteria

The majority of stakeholders indicated that net revenue, efficiency, equity, choice and sustainability should be the main criteria to consider in NHIP design. The MAJ insisted that "provider autonomy" in decisions over clinical and medical treatments should be a key criterion influencing the design while LICA wanted 'autonomy' of insurers (i.e., little interference in the design of packages, choice of members or premium-setting).

x) Ranking of Criteria

Net revenue, equity and efficiency were cited as the top 3 criteria by most stakeholders. Among those stakeholders who exerted a high influence on health policy-making, efficiency was the first placed criterion by the MOF and PIOJ; net revenue by the PS/MOH and CMO; provider autonomy by the MAJ and equity by JCTU.

xi) Impact on Equity

There were several differing interpretations of how equity would be achieved in recommended designs by stakeholders. Most felt that a "basic package for all", "cost sharing" by those with the ability to pay and 'improved access" would have the biggest impact on equity. To others such as the PS, DHRU, JAHSE and JCTU, subsidies for the poor to improve their access to services would be more valuable. The CMO and SMO/SC felt that improvements in public health services would benefit all and have a greater impact on equity. Among the commercial groups, the JEF wanted more contributions by informal sector operators while the SBAJ cited 'concessionary premiums by small businesses' as their design factor. The JCTU, on the other hand, felt that employers should make larger contributions than workers. The private insurers, LICA and BCJ, wanted subsidies to insurers to enrol the poor and the flexibility to custom-design packages for different income groups.

xii) Impact on Efficiency

Responses were quite clustered on this question with choice and competition among providers and insurers, administrative ceilings in respect of costs of insurers and primary care in the package as some of the main suggestions by stakeholders. The PS and DHRU

indicated that with an NHI given responsibility for personal care services, the MOH could focus more on public health matters while the CMO wanted 'health promotion' in the benefit package to secure efficiency in resource allocation and use.

xiii) Critical Success Factors

Stakeholders cited a range of factors as the key determinants of success. Among these, there seemed to be general agreement on economic growth, compliance and collection, timely and assured Government contributions and limits on abuse through use of copayments. Some like the CMO, and the MAJ placed much emphasis on the inclusion of primary care and health promotion activities in the package. Additionally, some like the NAJ and JCTU stated that accountability was a crucial factor while the DNHI, NIS and BCJ wanted to ensure a good IT system was part of the design.

In summary, the recommendations of key stakeholders seemed to converge on the following:

- Main Goals: health security; more funds for health, improved availability of and access to services;
- Key Features: universal coverage; compulsory plan; mixed package; subsidies for poor; choice of provider; choice of insurer including public company; no catastrophic care fund; administrative ceilings;
- Ranking of Criteria: Net revenue; efficiency; equity;
- Critical Success Factors: Compliance and collection; economic growth; timely gvernment contributions; limits on abuse.

5.6 Synthesis of NHIP Proposals from the Green Paper and Key Stakeholders

Table 5.6 provides a comparison of the main proposals derived from the Green Paper and the alternatives being recommended by the majority of key stakeholders. From the Table, there seems to be a broad concurrence of proposals in the Green Paper and by key stakeholders in respect of the following:

i) Main Goals
ii) Universal Coverage
iii) Mandatory plan
iv) Subsidies for the poor
v) Choice of provider
vi) Choice of insurer

vii) Quality Control by the MOH

viii) Administrative ceilings

ix) Copayments

Table 5.6 Comparison of Main Proposals on an NHIP from the Green Paper and Key Stakeholders

Feature	Green Paper	Key Stakeholders
Main Goals	Health security Supplementary financing Improve service availability	Health security More funds Improve service availability
Universal Coverage	Yes	Yes
Mandatory Membership & Contribution	Yes	Yes
Standard Benefit Package	Drugs Diagnostics Inpatient Care	Ambulatory Visits: GPs, Specialists, OP Care Drugs Diagnostics Inpatient care
Subsidies For Poor	Yes	Yes
Choice of Provider	Yes	Yes
Choice of Insurer	Yes	Yes
Competing Public Company	Yes	Mixed views
Catastrophic Care Fund	Yes	No
New Regulatory Body	Yes	Mixed views
Quality Control by MOH	Yes	Yes
Administrative Ceilings	Yes (in Policy Paper)	Yes
Copayments	Yes (in Policy Paper)	Yes

Source: Author's compilation

The main areas of disagreement related to:

i) the Benefit Package: there were clearly polarised views. The Green Paper was clear on a package consisting of prescribed drugs, diagnostics and inpatient care while several stakeholders insisted on a mixed package containing the above as well as coverage for ambulatory visits (primary and specialist). Suggestions for the contents of the mixed package by most stakeholders reflected concerns over the exclusion of primary care services, close knowledge of benefit plans offered by private insurers and consideration of the extent to which the SBP matched the contents of these plans. Appendix 4.8 shows the main services covered, limits and copayments in typical plans offered by local health insurers.

ii) the administration of the Plan with emphasis on the establishment of a competing public company: there were 3 clear positions which emerged: firstly, a single public insurer administering the Standard Benefit Package in the Green Paper for all residents; secondly, a public company that competes with private carriers in selling the Green Paper's standard benefit package to the entire population or which sub-contracts private

insurers in administering the standard package; and thirdly, leaving the administration and sales of the standard package to existing private insurers. The MAJ was the only group suggesting that the existing National Insurance Scheme could be the administrator that sub-contracts marketing, membership and claims processing services to the private insurers. Stakeholders generally recognised that there were major cost differentials as well as administrative/regulatory implications for each arrangement.

iii) the establishment of a catastrophic care fund: the inclusion or exclusion of this fund was a major source of contention. As an additional item to what was proposed in the standard benefit package such a fund would have implications for costs and contributions which were directly related to the range of catastrophic services covered and the sharing of the payments. However, stakeholders felt that this could easily be abused, was not a priority or could be considered in a later phase. If given the role as policymaker, most stakeholders indicated that such a fund would not be established or would be deferred.

iv) the establishment of a new regulatory body: there were two positions which were competing: the Green Paper which stated that a new regulatory body would be set up –the Health Insurance Commission--and several stakeholders who indicated that the necessary regulatory functions could be carried out by the existing Office of the Superintendent of Insurance with an expanded mandate and perhaps some additional costs.

In terms of a specific NHI design, it seemed that stakeholders and Government were both proposing universal coverage, mandatory, largely contribution-based plan but with major differences in 2 particular features:

i) Administrative: Two options i.e., competing insurers including a public company; leave it to existing private insurers. Another component of the administrative framework involved the decision on either a new regulatory body for health insurance, the Health Insurance Commission, or additional responsibilities for the existing regulatory body (Office of the Superintendent of Insurance).

ii) Package: Two options i.e., the standard benefit package of prescribed drugs, diagnostics and inpatient care as outlined in the Green Paper along with services in a catastrophic care fund; and a mixed benefit package consisting of ambulatory visits, prescribed drugs and diagnostics and inpatient care but excluding catastrophic care..

The financial implications and analysis of these options in terms of cost, contribution requirements and copayments will be dealt with in the next Chapter.

5.7 Summary of Findings

This has chapter sought to examine the emergence of a formally-articulated NHIP on the public policy agenda, the reactions of key stakeholders to the government's proposals as spelt out in its Green Paper in 1997 and the recommendations of key stakeholders on their version of an NHI for Jamaica if given the role of policymaker. The discussion traced the early roots of some version of an NHIP to the immediate post-independence period in the 1960's when social security arrangements were being established and the persistence of NHI on the health financing agenda of different governments despite varying ideological and pragmatic concerns in the 1970's, 1980's and 1990's.

It presented data on the rationale for and objectives of the universal coverage-mandatory NHIP in 1997 and, using the techniques of stakeholder mapping and forcefield analysis, examined the interest in, views and position of key stakeholders on the policy framework and specific proposals of the NHIP. It also presented data on comments and perspectives of the general public, minor stakeholder groups and the opposition political parties in terms of the extent to which they supported, disagreed or held no particular views on the NHIP proposals.

The chapter discussed the use and outcome of a 'role-playing' technique which sought to secure information on the proposals of key stakeholders for an NHIP as if they were policymakers. These proposals were compared with those presented in the Government's Green Paper to determine the extent to which there were similarities and differences. The major findings showed that:

- there were similarities in nine key areas: goals, universality, mandatory membership and contribution, subsidies for the poor, choice of provider, choice of insurer, quality control by the MOH and copayments by patients;
- there were sharp differences in terms of a comprehensive or limited benefit package with ambulatory care being the contentious component; the establishment of a public health insurance company to compete with existing private insurers; the establishment of a catastrophic care fund for high-cost, complicated cases and the establishment of a new regulatory body for the Plan.

Essentially, as the chapter concluded, the scope of the benefit package and the administrative arrangements were the defining distinctive features in perspectives and options on an NHIP by government and key stakeholders.

CHAPTER 6: FINANCIAL MODELLING OF NHI OPTIONS

6.1 Key Areas to be Examined

In their definition, Cichon et al., (1999) state that a financial model:

> *"maps the observed financial structure of the system or subsystem and projects this structure into the future or simulates the effect of a change in a selected parameter or parameters... Financial models in the health sector are... a subgroup of the overall set of financial models. ...[They] provide answers to questions such as 'how much would it cost if... how much would we save if... how much would it cost workers, employers and taxpayers if we were to introduce a certain type of national health insurance scheme...'. These 'how much' questions are the nucleus of financial modelling. They are normally answered in absolute terms (in currency units) and in relative terms (as a percentage of total taxable income, of contributions, or of GDP)".*

Using this definition as a guide, the purpose of this chapter is to define and elaborate the main features, assumptions, financial flows and implications of the 3 NHI options i.e the government's Green Paper, the alternative emerging from the stakeholder analysis in Chapter 5 and the prototype NHI plan. The key aspects of defining such a prototype, consisting largely of 'best practices' and related features in NHI-type plans which have emerged from the literature review, were addressed in Chapter 3.

As suggested in the literature (Cichon et al., 1999; Plamondon et.al, 2002; GTZ and WHO, 2004), the general approach adopted in the financial modeling is to specify as far as possible the features, relationships, policy variables, assumptions and expected results or outcome indicators of each option and the prototype in a quantitative form. In building and deriving estimates from the model, certain datasets or modules are critical - demographic and macroeconomic; labour force and earnings; and utilisation and cost of health services. In the analysis there are five key aspects which will be presented:

1) the main features of the options with emphasis on those areas where there is common ground and those which reflect clear differences;
2) schematic frameworks to depict the flow of funds and services in each option;
3) specification of the variables and assumptions to be used in the financial modeling and mathematical mapping of the relations and equations linking these variables;
4) calculations of the inflows and outflows in the prototype and the two options over the medium term (2002 to 2010);

5) scenario analyses of baseline assumptions and estimates of financial flows, pay as you go rate (PAYGR) and government's contributions to consider the combination of key factors which could lead to the 'best case' and 'worst case' as well as sensitivity analyses to consider the likely impact of specific variables.

6.2 Main Features of NHIP Options

Table 6.1 summarises the main features of the prototype (referred to as PT) and the two NHI options discussed in Chapter 5 i.e., the Green Paper proposal referred to as GPP and the proposed alternative by some key stakeholders referred to as SAP. In comparison, there are some common features among the options and some which make them distinct.

Table 6.1 Key Features in NHI Options to be Evaluated

Features	Prototype (PT)	Green Paper (GPP)	Alternative (SAP)
Common			
Population Coverage	Universal	Universal	Universal
Legal status	Mandatory	Mandatory	Mandatory
Subsidies for the poor	Government	Government	Government
Health service providers	Public and private	Public and private	Public and private
Quality control	Ministry of Health	Ministry of Health	Ministry of Health
Administrative costs	Fixed ceilings	Fixed ceilings	Fixed ceilings
Copayments	Percentage of costs	Percentage of costs	Percentage of costs
Different			
Benefit package	Broad Package: Medical and Hospital	Limited Package: Prescribed drugs Prescribed tests and Imaging services Inpatient hospital care	Broad Package: Medical and Hospital
Catastrophic care overseas	Some coverage	Some coverage	Not covered
Administration/ Choice of insurer	Single public company	Competing public and private companies	Competing private companies
Regulatory agency	Upgrade existing agency	New agency	Self-regulatory or Upgrade existing agency
Reimbursement of service providers	Global budgets (assigned to providers)	Fee for service at average cost in public facilities (assigned to providers)	UCR-based fee for service (assigned to providers)
Contribution	Percentage of wages/earnings	Standard fixed amount (indexed)	Standard fixed amount (indexed)

Source: Author's compilation

a) Common Features

- Universal Coverage: On the 'breadth' dimension, each option proposed to be inclusive rather than restrictive in terms of membership and to offer the same package of benefits to each member. This reflects a shared concern with 'equity in access' in that at the time of treatment there is (or should be) no distinction between members who made direct contributions and those whose contributions were paid by government.

- Mandatory plans: Each option proposed legislated plans to make it compulsory for all residents to become members and to have health insurance coverage for at least those items specified in the benefit package. This ruled out the possibility of some groups such as the top income earners or workers in selected industries opting out of the NHI system. (However, this did not prohibit persons from having 'duplicate' insurance coverage). As such, the health risk profile and utilisation patterns considered in the options reflect the national experience rather than that of selected segments of the population. The element of compulsion also extended to service providers in that no provider could turn away or refuse to treat a member of the plan.

- Premiums for the poor: To secure universality and to ensure that the mandate for total population membership was met, each option proposed that the State cover premiums/contributions of the poor. This obligation would be met through subsidies to the insurer(s) rather than to providers of care so that the poor received membership cards entitling them to the same package of benefits as other contributing members. The issues relating to identification of the poor, whether the subsidy should be 'partial' or 'total' and the implications of these are explored in the subsequent sections dealing with funding and policy aspects.

- Access to and choice of service providers: In view of the mixed character of the Jamaican health care system, where the public and private sectors complement each other for some services and compete for patients in others, each option proposed that members should have access to service providers in both sectors. Another key aspect was that such access and choice would be open to the poor so that they were not restricted to using services in the public sector only.

- Quality control: In terms of quality of care offered by providers each option proposed that the Ministry of Health rather than the insurer(s) or a new agency be asked to set norms and standards and to adjudicate on these when required.

- Administrative costs: Reflecting concerns to contain cost despite clear differences in their administrative arrangements, each option proposed to set ceilings with respect to the administration of the plan thus ensuring that the majority of contributions were directed at paying for health services rather than for 'management'. While specific targets were not indicated, estimates have been made in the modelling exercise as to what these magnitudes may be, based on suggested administrative structures (discussed below in the section on differences dealing with 'Administration and choice of insurer').

- Copayments: Copayments (based on a percentage of costs rather than flat amounts) weree proposed in each option primarily to deter 'frivolous' use and to provide immediate resources to providers. While no specific targets were stipulated, the modelling exercise assumed certain magnitudes bearing in mind the indications given in interviews with stakeholders and the general international trend towards some form of cost-sharing at the point of service (Saltman, et al., 2004; Carrin, 2004).

b) Differences

- Benefit package: The delineation of the benefit package shows clear differences among the options. While the PT and SAP offered all medical (i.e. ambulatory care services) and hospital benefits, the GPP proposed a more restricted package covering inpatient hospital care, prescribed drugs and diagnostic services arising from ambulatory visits. The GPP specifically excluded consultations and non-prescription costs of ambulatory care visits whether in primary care or outpatient settings. However, the GPP and PT included a limited amount of overseas care (discussed below in 'Catastrophic care') while the SAP excluded such care. In each option it was proposed that the benefit package would contain standard provisions and available to all. This did not prevent anyone from seeking additional (supplementary and complementary) private insurance coverage for services outside the standard packages or to cover copayments or even duplicate coverage for services in the packages.

- Catastrophic care: In Jamaica catastrophic care normally refers to expensive and sophisticated treatments not available locally for which patients are sent overseas for care (to the US, UK or Canada or Cuba). As suggested by stakeholders, this was excluded from the SAP package. However, coverage for some of these services was included in the GPP and PT packages.

- Administration and choice of insurer: This is one of the most distinguishing features of the options. The PT proposed that the plan should be managed by the existing Social Security agency appropriately upgraded as a fully-fledged public company (as against its present status as a department in the Ministry of Labour). This would mean that a single public insurer (with an established infrastructure) would be responsible for the plan and as such members would not have the option of selecting their own insurer. The GPP provided members with a choice of insurer from among the existing private health insurance carriers and a new public company to be established. According to the Green Paper a public company was necessary to provide coverage for its benefit package only and to ensure inclusion of those persons who are normally refused insurance cover or are charged very high premiums by private carriers (such as the retired, elderly, unemployed and those with certain pre-existing health conditions). On the other hand the SAP proposed that members should choose an insurer from among the existing private carriers and that there was no need for a new competing public company or for a single non-competing public insurer.

- Regulatory agency: Both the PT and SAP indicated that expanding the functions of the existing Office of the Superintendent of Insurance (OSI) would adequately cover the task of regulation and supervision in the plans. The SAP also proposed that self-regulation by the group of private carriers could be considered. On the other hand, the GPP placed much emphasis on the establishment of a new Health Insurance Commission to perform the specific tasks of supervision and adjudication in respect of the NHI plan.

- Reimbursement of providers: While there was consensus on assignment of payments to providers (rather than to members) there were quite distinct proposals among the options for reimbursement of providers. The PT sought global targets/budgets for the various services and fixed reimbursements (on a cost per case basis for ambulatory care and budgets for hospitals) with reference to these targets. The GPP proposed to reimburse public and private providers on a fee for service basis with close reference to the average cost of similar services in the public sector. In the SAP the proposal was also for reimbursements on a fee for service basis but based on private insurance practice of 'usual, customary and reasonable' (UCR) rates charged by providers.

- Contributions/Premiums: Each option had different proposals for determining the basis for contributions reflecting concerns over equity (payment according to one's ability) and administrative feasibility (calculation of earnings and collectibility of

contributions especially with respect to the large self-employed population). The PT proposed a fixed percentage of earnings (proportionality) while the GPP and SAP proposed community-rated fixed amount contributions (irrespective of earnings) indexed to the cost of services (as in private health insurance). A critical factor in relation to contributions is compliance i.e., the extent to which due contributions are paid on a timely and complete basis. The likely impact of varying compliance levels on financial flows and overall viability of NHI is considered in the modeling.

6.3 Schema of the Flow of Funds and Services

Donaldson and Gerard (1992) and WHO (2000) suggest that NHI-type systems are generally based on a 'triangular' structure of relationships in dealing with the critical components of a health financing system i.e.:

- who pays/contributes;
- who benefits;
- what is the modality and mechanism for contributions;
- who collects the funds and manages the system;
- what benefits/services are received;
- who provides the services;
- how are service providers reimbursed.

The following frameworks (Figures 6.1-6.3) outline how these components are envisaged in the NHI options using the triangular relations among members/beneficiaries, health service providers and insurer(s) in mapping the flow of payments and services. They reflect those aspects of the options which are broadly similar such as coverage of contributors and other beneficiaries (dependents); choice of health services providers; use of copayments and reimbursement arrangements. However the varying size of the boxes and thickness of the directional arrows indicate some of the areas where there are clear differences in the options. These are shown in Table 6.2 where the key differences and likely magnitudes of these are mapped in relation to the number of likely beneficiaries; the depth of the benefit package; the expected contribution per member; co-payment obligations; number of insurers, number of providers and percentage of claims value paid by the insurer(s). For example, copayments are expected to be higher in the SAP following the existing pattern among local private insurers to set rates at about 20% while lower rates are expected in the GPP and PT.

Table 6.2 Comparison of key Factors Affecting Financial Flows in NHI Options

FACTORS	PT	GPP	SAP
i) Number of likely beneficiaries (linked to depth of benefit package)	***	*	**
ii) Size (depth) of benefit package	***	*	**
iii) Contribution per person	***	*	**
iv) Copayment obligation	*	**	***
v) Number of insurers	*	***	**
vi) Number of service providers	***	*	**
vii) Percent of claim paid by insurer (linked to size of copayment)	***	**	*

Notes: the number of asterisks reflects the likely quantum of the factor.
Source: Author's compilation

Figure 6.1 outlines the flows assumed in the PT. Members (including contributors and non-contributors) have access to health services in a broad benefit package that includes hospital care (inpatient and outpatient), ambulatory care, prescribed drugs and diagnostic services and some catastrophic (overseas) care. This is to be paid through a mandatory deduction fixed as a percentage of the income of the working population and Government subsidies for the poor. The contribution arrow indicates that the average amount of the contribution is expected to be greater than in the other Options.

The health insurance plan is only available from a single public insurer. Beneficiaries have access to services in the package offered by local public and private providers who receive periodic payments based on annually negotiated global budgets as well as through some copayments. There are also provisions for some services by overseas facilities. Beneficiaries are expected to make small copayments (compared to other options).

Figure 6.2 depicts the flows in the GPP. Members have access to a narrower benefit package comprising inpatient care, prescribed drugs and diagnostic services and limited overseas (catastrophic) care. This is to be paid for through a fixed premium, the same for all persons regardless of income, and Government subsidies for the poor. Insurance for the package of services could be bought from competing private and public companies. The services in the package could be accessed from public and private providers and there are provisions for some overseas care. Providers will be paid on a fee for service basis. Copayments are expected to be higher than in the PT but lower than that in the SAP.

Figure 6.1 Flows of Services and Funds in Prototype (PT)

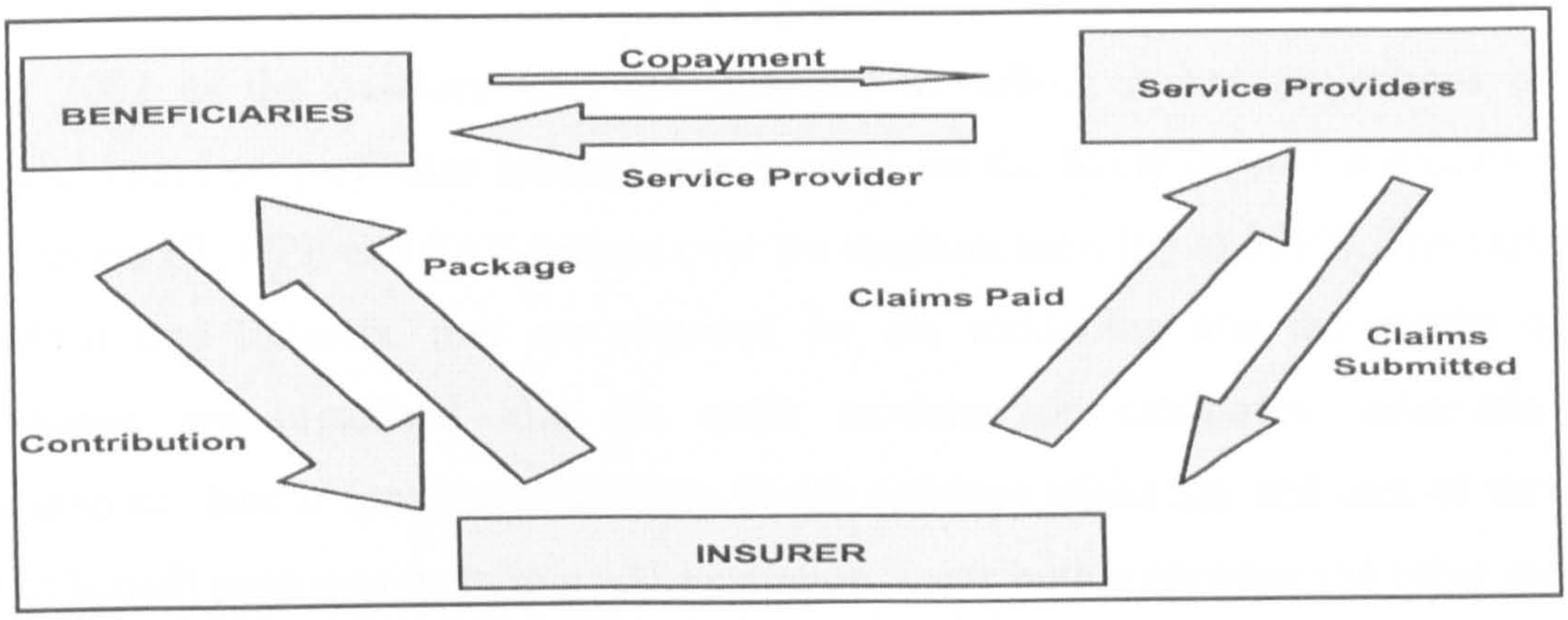


Figure 6.2 Flows of Services and Funds in GPP

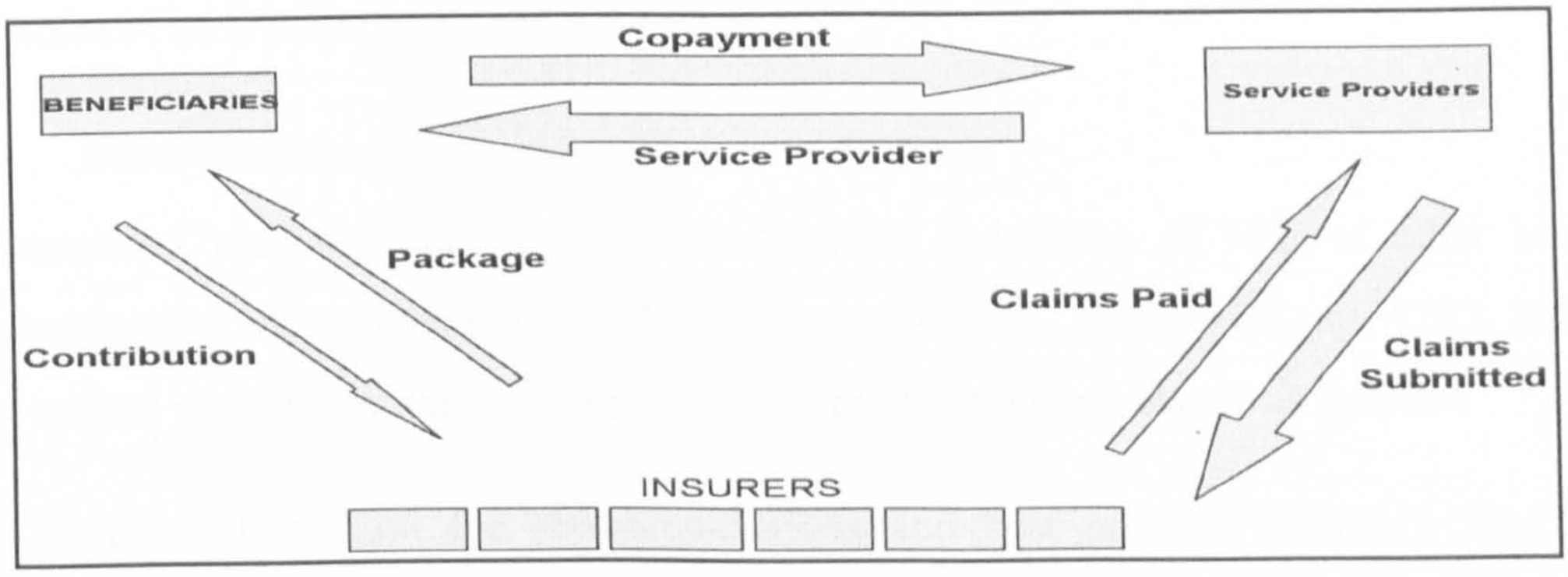
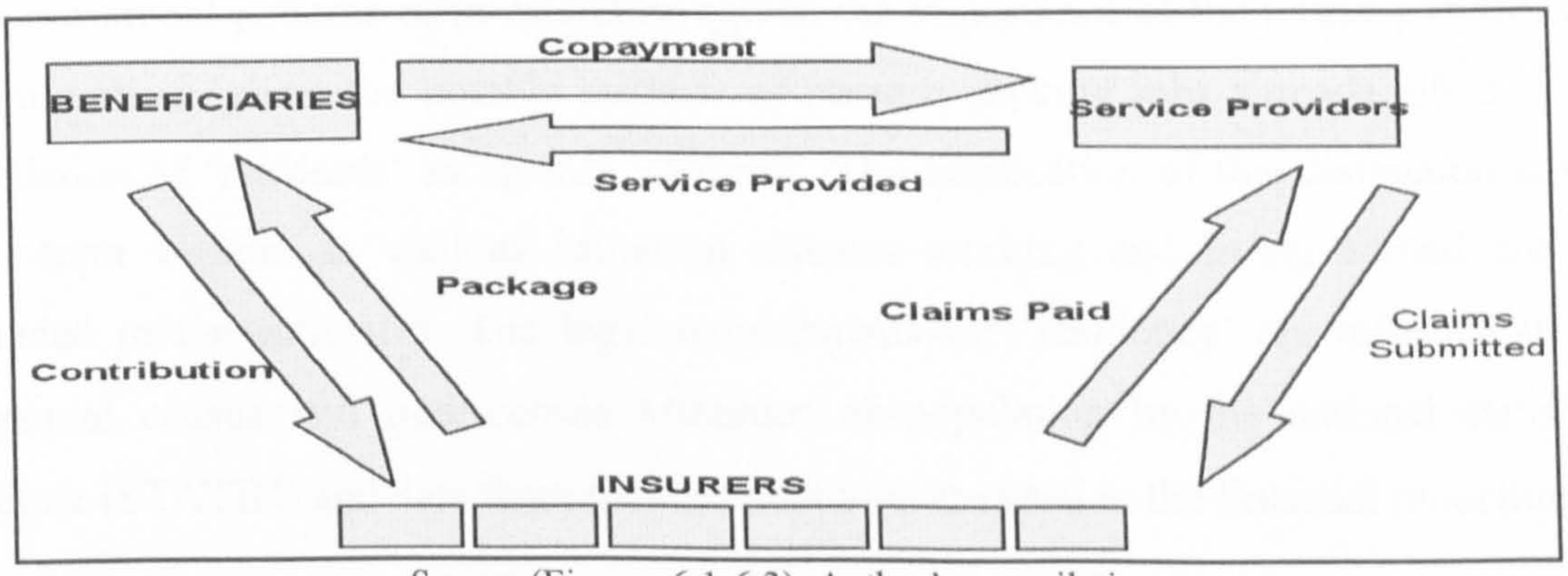


Figure 6.3 Flow of Services and Funds in SAP



Source (Figures 6.1-6.3): Author's compilations

The flows in the SAP are shown in Figure 6.3. Members have access to a benefit package that includes hospital care (inpatient and outpatient), ambulatory care, prescribed drugs and diagnostic services. This is to be paid for through a fixed premium for all members. The benefit package could be bought from any competing private insurer at a fixed price premium (as in the case of the GPP). Services in the package will be available from public and private providers who will be paid by insurers on a fee for service basis (based on UCR fee schedules). Copayments are expected to be the highest among the 3 Options.

6.4 Specification of Variables and Assumptions

Using 2002 as the baseline year the financial modelling makes projections of key variables based on particular assumptions on what are the likely inflows and outflows of funds in the PT, GPP and SAP options over the medium term (up to 2010). The variables, combined into datasets, that are required for the modelling and the results of the estimations are organised into six main modules or categories: economic and demographic; labour force and earnings; health services utilisation and cost of services; cost of benefit packages including administration; contribution revenue and other income; and estimation of the necessary 'pay as you go' (PAYG) contribution rate to equate expenditure and revenue as well as the contribution share of government. The key variables in each module are defined below.

a) Some General Assumptions

Assumptions play a pivotal role in the financial modelling of NHI or other health insurance programs (Cichon et al., 1999; Plamondon et al., 2002; GTZ and WHO, 2004). The critical general assumptions applied in the modelling exercise are as follows:

i) Coverage: Based on the recommendations and best practice emerging from the literature and the general consensus of stakeholders, the NHIP options should seek to ensure universal coverage. It is assumed that universal coverage in the context of Jamaica with prominent patterns of in-migration (given the importance of the tourism sector) and out-migration (given the notable outflow of persons seeking jobs abroad) refers to the population of 'residents' as against 'citizens'. The implication of this distinction is that short-term visitors as well as Jamaican citizens working and living abroad are not included in the estimates. The legal requirements for 'residency' are reflected in the decennial census and inter-census estimates of population by the national statistical institute (STATIN) and data from their publications are used in the financial modelling.

In practice, and as evident from most countries with mandatory health insurance plans, universal coverage may not be achievable in the first year of operation and in fact may require several years. In some countries, certain groups are targeted for inclusion in various phases of growth and development and this had several implications for cost, administration and contribution rates. In the current modelling exercise, universal coverage is assumed from Year 1 to show the financial and policy implications of a fully functional NHIP. By extension, with universal coverage and mandatory participation, it is further assumed that there is no opting-out provision for particular groups.

ii) Access and use of public-private providers: In view of the mixed nature of the health provider market and reflective of stakeholders' concern for choice, competition and efficiency, services (as defined in the different packages) will be accessible in public and private health facilities. As indicated in Table 4.1 the public sector is more dominant in the provision of hospital-based services while private providers dominate the market in the provision of ambulatory care, prescribed drugs and diagnostic services.

Although there are clear differences in average costs and overall expenditure, for the purpose of the financial modelling, it is assumed that the current patterns of choice and utilisation of services in the public and private sectors will continue in the medium term.

It is also assumed in the modelling that access to and the cost of overseas care, which is covered in some private health plans and which is quite common for residents with higher incomes in Jamaica, will be limited to catastrophic cases referred for treatment abroad.

It is further assumed that issues of provider licensing and registration will have been dealt with by local health regulatory agencies and that the NHIP will establish contractual relations with the network of public and private providers.

iii) Indigent population: The modelling assumes this group can be appropriately defined, measured and identified by other state agencies (rather than by the NHIP agencies as an additional task with associated costs). As residents, it is also assumed that they would be eligible for membership in the NHIP and access to the full benefits of the package. It is further assumed that their contributions will be paid in full by the Government.

iv) Reimbursement: Evidence from various countries and health plans indicate that the mode of reimbursement (such as fee for service based on UCR charges, global budget and capitation as well as whether patients or providers are assigned reimbursements) has implications for cost of services and administration as well as behaviour of providers and members. The modelling does not attempt to provide explicit data on the implications of varying the modes of reimbursement but treats this as an integral component of the cost of administration and as part of moral hazard examined in the sensitivity analysis.

v) Services to be covered: Using data provided by stakeholders, the broad categories of services considered in the modelling are:

- inpatient hospital care;
- outpatient and casualty visits (including emergency) to hospitals;

- ambulatory visits to public health centres, general practitioners (GP's) and specialists;
- prescribed drugs;
- prescribed laboratory and other diagnostic services;
- limited overseas care for catastrophic conditions.

Further refinements and specifications of services to be covered within each category such as establishing lists of included and excluded services, limits on access and utilisation (e.g. value and volume restrictions per individual or family or case or lifetime) and quality provisions are not explicitly dealt with in the modelling. However, it is assumed that considerations of these factors are ultimately manifested in the cost of services. Changes in the cost of services are dealt with in the sensitivity analysis as factors which could reduce or increase the cost of the package(s).

It is further assumed that all persons would have access to the same package of services. The policy and practical implications of different packages for different groups of persons as well as for coverage of services not included in the package(s) are considered in Chapter 8.

vi) Demand for Health Services: Ideally, projections of demand should consider a range of inter-related factors. These may include:

- the size and growth of the population;
- the age and sex distribution;
- the morbidity and epidemiological profile of the population;
- the current levels of utilisation and the extent to which these are affected by issues such as supply (of hospital beds, physicians, specialists and the mix of services available in Jamaica), location of facilities, income levels, the incidence of health insurance, educational attainments, quality and price;
- the health goals and objectives of the country such as emphasis on preventive as against hospital-based interventions;
- the impact of technological innovations.

It is outside the scope of this research to develop a specific health services demand model which effectively includes all of these factors. As such, the projections in the modelling consider current utilisation patterns and the changes expected as a result of population growth and aging as well as the likely impact of a universal health plan which would

provide full access to services for all groups and especially for some which seemed to be "under-utilising" services.

The model assumes that the pattern of demand is ultimately and fully reflected in the cost of services (i.e. supply constraints do not significantly distort the pattern of demand). The sensitivity analysis explores the implications of larger or smaller increases in projected demand which may be due to the impact of factors other than key demographic variables.

vii) Income ceiling: Income ceilings affect the contribution rate as well as the absolute size of the contribution by members of the NHIP. In several countries where the contribution rate is specified as a fixed percentage, contributors make payments which are proportionate to their income i.e those with higher incomes pay more than those with lower incomes. An income ceiling is often used to provide some measure of relief to high income earners who may be burdened with excessively large absolute payments. Establishing such ceilings requires detailed data on the distribution of income and on actuarial analyses. In the absence of this data, the financial modelling did not attempt to establish ceilings. It assumes that there are no ceilings. It is also assumed that 'income' is limited to 'wages and salaries' which could be readily estimated from the national accounts data as a percentage of GDP.

viii) Other health sector spending outside the NHIP benefit package(s): This includes the cost of administration of MOH's Head Office, capital spending and its other non-health expenditure such as social programmes. It is assumed that these items will continue to be funded from general taxes i.e. through allocations to MOH From MOF. In the case of capital spending, the consequent recurrent costs are contained in and considered as part of the health services budget.

In the private sector there are no explicit provisions for considering capital investment. It is assumed that amortisation and interest charges for such investments are reflected in the routine costs of health services provided and are fully incorporated in their charges for services.

b) The Data Modules

i) Economic and Demographic: The modelling requires and utilises data on several key macroeconomic and demographic variables. These relate specifically to:

- GDP and GDP growth rate
- general and medical inflation
- the size and rate of growth of the population
- the age distribution of the population
- the (social) dependency ratio i.e. number of persons less than 14 years and over 65 in relation to those 15-64 years old
- average size of households
- number of persons living below the poverty line

Table 6.3 lists the key variables as well as provides data on the baseline magnitudes, estimates and projections. Current and projected measures of these variables are generally derived from existing data in official publications. Some projections are made based on calculations undertaken within the model and these are clearly indicated.

ii) Labour Force and Earnings: The main variables considered in the modelling are:

- the size of the population 15 years and over;
- the potential labour force (PLF);
- the labour force participation rate (LFPR);
- the actual labour force (ALF), employed labour force (ELF) and unemployed labour force (ULF);
- distribution of the ELF in terms of broad employment categories: government or public sector; private wage and salaried groups; own account or self-employed;
- wages and salaries as a percentage of GDP and the total earnings or income base (for estimating the contribution rate/amount);
- average real earnings per capita and the rate of growth of earnings;
- the economic dependency ratio: the number of persons being supported by each worker or the total non-working population in relation to those who are working.

The baseline magnitudes and projections in respect of these variables are shown in Table 6.4. Official data on the current and projected magnitudes of these variables already exist and are used in the modelling of NHIP options. In some cases additional projections are required in the modelling and these are clearly indicated.

Table 6.3 Baseline Magnitudes and Projections of Economic and Demographic Variables, 2002-2010

Inputs/Variables	Baseline Data (2002)	Assumptions/Projections
1. Real GDP (J$bn)	382.2	Official data used. Actual data used for 2002-2004. Projections for 2005-2010 assume real growth of 1.5% p.a.
2. Real GDP growth rate (%)	1.1	Official data used. Actual data used for 2002-2004. Projections for 2005-2010 assume real growth of 1.5% p.a.
3. Index of change in real GDP	100	Cumulative changes are calculated with 2002 as base year.
4. Real GDP per capita (J$'000)	145.9	Official data used. Actual data used for 2002-2004. Projections for 2005-2010 assume growth rate of 1.0% p.a.
5. Real GDP per capita growth rate (%)	0.7	Official data used. Actual data used for 2002-2004. Projections for 2005-2010 assume growth rate of 1.0% p.a.
6. Index of change in real GDP per capita	100	Cumulative changes are calculated with 2002 as base year
7. General Inflation using consumer price index (%)	7.1	Official data used. Actual data used for 2002-2004. Projections for 2005-2010 assume increase by 8.0% p.a.
8. Medical Inflation (%)	8.6	Official data used. Actual data used for 2002-2004. Projections for 2005-10 assume medical inflation exceeds general inflation by 1.5% p.a.
9. Difference between medical and general inflation (%)	1.5	Actual data used for 2002-2004. Projections for 2005-10 assume a continuing difference of 1.5%.
10. Population (mn)	2.62	Official data used. Actual data used for 2002-2004. Projections for 2005-10 assume growth rate of 0.5% p.a.
11. Growth rate (%)	0.4	Official data used. Actual data used for 2002-04. Projections for 2005-10 assume growth rate of 0.5% p.a.
12. Index of change in population size	100	Cumulative changes calculated with 2002 as base year.
13. Growth rate of elderly population ≥65 years (%)	0.5	Official data used. Actual data used for 2002-04. Projections for 2005-10 assume growth rate of 0.6% p.a.
14. Index of change in size of elderly population	100	Cumulative changes calculated with 2002 as base year.
15. Dependency ratio i.e. number of persons under 14 and over 65 as % of those 15-64 years .	0.63	Official data used, Actual data used for 2002-2004. Projections for 2005-10 assume stable ratio of 0.61.
16. Average size of household (persons)	3.6	Official survey data used. Actual data used for 2002-04. Projections for 2005-06 assume 3.5 persons per household and 3.4 persons from 2007-10.
17. Average number of households ('000)	728	Official survey data used. Actual data used for 2002-04. Projections for 2005-10 based on calculations of population and average size of households.
18. % persons living below poverty line	19.7	Official survey data used. Actual data used for 2002-04. Projections for 2005-10 assume 20% of persons live below poverty line.
19. Number of persons below poverty line ('000)	516	Calculations and projections from official survey data.

Source: Author's compilation

Table 6.4 Baseline Magnitudes and Projections of Labour Force and Earnings Variables, 2002-2010

Inputs/Variables	Baseline Data (2002)	Assumptions/Projections
1. % population 15 years and over	69.5	Official data used. Actual data used for 2002-04. Projections from 2005-10 assume 70% of persons are 15 years and over. This data is used to calculate the absolute size of the adult population.
2. % institutionalised population	2.3%	Official data used. Actual data used for 2002-04. Projections from 2005-10 assume the same rate over the period.
3. Potential Labour Force - PLF (mn)	1.78	Official data used. Actual data used for 2002-04. Projections from 2005-10 are calculated from data on the adult and institutionalised population.
4. Labour Force Participation Rate - LFPR (%)	64.0	Official data used. Actual data used for 2002-04. Projections are 65% in 2005 and 66% from 2006-10.
5. Actual Labour Force - ALF (mn)	1.14	Official data used. Actual data used for 2002-04. Projections from 2005-10 are based on population growth rates and the LFPR.
6. % Employed	84	Official data used. Actual data used for 2002-04. Projections from 2005-10 assume 86% employment rate.
7. Employed Labour Force - ELF (mn)	0.96	Official data used. Actual data used for 2002-04. Projections from 2005-10 apply the projected employment rate (86%) to the projected ALF.
8. Unemployed Labour Force - ULF (mn)	0.18	Official data used. Actual data used for 2002-04. Projections from 2005-10 apply the projected unemployment rate (14%) to the projected ALF.
9. Distribution of ELF by employer—government (G); private (P); own account (OA)	a) G: 13% b) P: 51% c) OA: 36%	Official data used. Actual data used for 2002-04. Projections from 2005-10 assume a distribution of 11%; 55% and 34% respectively.
10. Wages-earnings as % GDP	65	Official data. Actual data used for 2002-04. Projections from 2005-10 assume wages account for 68% of GDP. This data is used to estimate the total real wage base.
11. Average real earnings per worker per annum J($)	$258,800	Official data used. Actual data used for 2002-04. Projections from 2005-10 relate changes in the real wage base to changes in the ELF.
12. Labour productivity J($)	$398,100	Official data used. Actual data used for 2002-04. Projections from 2005-10 relate changes in real GDP to changes in ELF.
13. Economic Dependency Ratio: number of persons supported per worker	1.7	Calculated for 2002-04 and projections from 2005-10 utilise data on size of the ELF and the non-working population.

Source: Author's compilation

iii) Health Services Utilisation and Expenditure: The key variables in this module are the patterns of utilisation of health services and of costs. The projections cover the likely growth in demand for and consequent costs of services in the package(s) i.e. inpatient and outpatient hospital care, ambulatory non-hospital visits, prescribed drugs and laboratory/diagnostic services; and catastrophic care. Table 6.5 shows baseline

magnitudes and projections in 11 sub-models showing demand for and costs of these services in the private and public sector.

Table 6.5 Baseline Magnitudes and Projections of Health Utilisation and Expenditure , 2002-2010

Inputs/Variables	Baseline Data (2002)	Assumptions/Projections
1. Inpatient Hospital Care (J$bn)	5.8	Calculations from official data and projections of public and private inpatient costs (i.e. Sub-models 1a and 1b).
Sub-model 1a: Public		
• Utilisation (inpatient days)	1,198,000 or ~0.46 days per capita	Official data: The period average for 1992-2003 was 0.35 days per capita. However, in 2001-2003 the average was 0.43 days. Projections from 2004 use the average of last 3 years and a small adjustment for the impact of the growing elderly population.
• Cost (J$bn)	4.7	Estimated: Cost per inpatient day times number of days. Projections make a 1.5% adjustment to reflect the impact of the difference between medical and general inflation.
Sub-model 1b: Private		
• Utilisation (inpatient days)	Specific data not available	Broad estimates from the Annual Survey of Living Conditions (ASLC) suggest that private inpatient days account for about 10% of total inpatient days.
• Cost (J$bn)	1.1	Estimates from National Health Accounts (NHA) data, ASLC and private insurance.
2. Outpatient Hospital Costs (J$bn)	2.7	Calculations from official data and projections of public and private outpatient costs (i.e. Sub-models 2a and 2b).
Sub-model 2a: Public		
• Utilisation (casualty and outpatient visits)	1,183,000 or ~ 0.45 visits per capita	Official data: The average for the period 1992-2003 was about 0.4 visits per capita. In 2001-03 the average was 0.45 visits. Projections from 2004-10 assume a slight rise to 0.47 visits to reflect likely increased demand from the growing elderly population.
• Cost (J$bn)	2.2	Estimated: Cost per visit times number of visits. Projections make a 1.5% adjustment to reflect the impact of the difference between medical and general inflation.
Sub-model 2b: Private		
• Utilisation (casualty and outpatient visits)	Specific data not available	Broad estimates from the ASLC suggest that private outpatient visits account for ~ 10% of total inpatient days.
• Cost (J$bn)	0.5	Estimates from NHA data, ASLC and private insurance.
3. Ambulatory care visits: primary & specialist (J$bn)	5.6	Calculations from official data and projections of public and private ambulatory visits costs (i.e. Sub-models 3a and 3b).
Sub-model 3a: Public		
• Utilisation (visits)	1,502,000 or ~ 0.57 visits per capita	Official data--The average for the period 1992-2003 was about 0.55 visits per capita. In 2001-03 the average was 0.57 visits. Projections from 2004-10 assume a slight rise to 0.6 visits to reflect likely increased demand from the growing elderly population.
• Cost (J$bn)	1.4	Estimated: cost per visit times number of visits. Projections make a 1.5% adjustment to reflect the impact of the difference between medical and general inflation.
Sub-model 3b: Private		
• Utilisation (visits)	Specific data not available	Broad estimates from the ASLC suggest that private ambulatory visits are 3-4 times the number of public visits.
• Cost (J$bn)	4.2	Estimates from NHA data, ASLC and private insurance.

Inputs/Variables	Baseline Data (2002)	Assumptions/Projections
4. Prescribed drugs (J$bn)	5.1	Calculations from official data and projections of public and private prescription drug costs (i.e. Sub-models 4a and 4b).
Sub-model 4a: Public		
• Utilisation (prescriptions filled)	1,896,000 or ~ 0.72 per capita	Official data: The average for the period 1992-2003 was about 0.6 prescriptions per capita. In 2001-03 the average was 0.7. Projections from 2004-10 assume a slight rise to 0.75 prescriptions to reflect likely increased demand from the growing elderly population.
• Cost (J$bn)	1.3	Estimated: Cost per prescription times number of prescriptions. Projections make a 1.5% adjustment to reflect the impact of the difference between medical and general inflation.
Sub-model 4b: Private		
• Utilisation (prescriptions filled)	Specific data not available	Broad estimates from the ASLC suggest that private prescriptions filled are 3-4 times that in the public sector.
• Cost (J$bn)	3.8	Estimates from NHA data, ASLC and private insurance.
5. Prescribed diagnostic services (J$bn)	1.8	Calculations from official data and projections of public and private diagnostic services utilisation (i.e. Sub-models 5a and 5b).
Sub-model 5a: Public		
• Utilisation (imaging scans and laboratory tests)	1,829,000 or ~ 0.7 scans/tests per capita	Official data: The average for the period 1992-2003 was about 0.65 scans/laboratory tests per capita. In 2001-03 the average was 0.7. Projections from 2004-10 assume a slight rise to 0.75 prescriptions to reflect likely increased demand from the growing elderly population.
• Cost (J$bn)	0.7	Estimated: Cost per scan/test times number of scans/tests. Projections make a 1.5% adjustment to reflect the impact of the difference between medical and general inflation.
Sub-model 4b: Private		
• Utilisation (imaging scans and laboratory tests)	Specific data not available	Broad estimates from the ASLC suggest that private scans-tests are 1.5 to 2 times that in the public sector.
• Cost (J$bn)	1.1	Estimates from NHA data, ASLC and private insurance.
6. Sub-model 6: Catastrophic Care Overseas (J$bn)	0.2	Estimates and projections from MOH data and private health insurance.
7. Total cost/expenditure (J$bn)	**21.2**	**Sum of costs in 1-6 above**

Source: Author's estimations

iv) Outflows--Cost of Benefit Package and Administration: In addition to the direct costs incurred in covering the benefit package there are two other major expenditure items—administration and reserves. Administration covers the cost of administering the plan (staff, premises, equipment, etc) by insurers as well as by the regulatory agency. In addition, it is prudent to build up a pool of reserves (to ensure that sufficient funds are available to cover utilisation costs in case of contingencies such as delays in receiving contributions or unexpectedly high and short-term unemployment levels). Given the experience with compliance in Jamaica (estimated by the respective agencies at 40%-50% for income and corporate tax; 75% for General Consumption Tax; 80% for National

Housing Trust deductions and 68% for National Insurance contributions) it is assumed that reserves will be needed to cover about 2-3 months of utilisation costs.

In the modelling, reserves are treated as part of the cost of administration and are built up over a period of time. In the case of the PT, the cost of administration is assumed to represent about 7.5% of the cost of benefits while in the GPP and SAP it is assumed as 15%. The difference in the costs of administration is largely related to expectations of lower costs and economies of scale of a single insurer-payer managing the PT's operations as against competing insurers striving for membership and market shares in the GPP and SAP. This is a general finding by analysts and researchers on health insurance systems in DCs and ICs (Evans, 1986; Docteur and Oxley, 2003; Anderson and Hussey, 2004; Kwon, 2006). In Jamaica, competing insurers would mean greater roles for private insurance carriers whose operational and marketing costs alongside profitability expectations would most likely lead to greater upward pressures on administrative costs.

Table 6.6 shows the calculated baseline expenditures and the basis for projecting these expenditures in respect of the costs of benefits, administration and reserves.

Table 6.6 Baseline Magnitudes and Projections of Administration and Total Cost of NHIP Options, 2002-2010

Inputs/Variables	Baseline Data (2002)	Assumptions/Projections
1. Cost of benefit package ($bn)	PT: 21.2 GPP: 12.9 SAP: 21.0	Data from the 11 sub-models in Table 6.5 are used to derive the cost of the benefit package for each option.
2. Administration (% / $bn)	PT: 7.5% / 1.59 GPP: 15% / 1.94 SAP: 15% / 3.15	The percentage represented by administrative costs remains steady over the period for each option.
3. Total cost of plan ($bn)	PT: 22.79 GPP: 14.84 SAP: 24.15	This is the sum of the cost of the benefit package and of administration/reserves. Changes over time reflect changes in the above components.
4. Average cost-payment per member per annum ($)	PT: 8,699 GPP: 5,664 SAP: 9,218	This varies over time according to movements in total cost and the size of the population.

Source: Author's estimations.

v) Inflows—Income and Other Revenue: As shown in Table 6.7, inflows represent payments and contributions needed for meeting the cost of each option. The key variables in this module are:

- the expected wage/earnings base of the contributing population. This is determined by the magnitude of total insurable wages/earnings and level of compliance by contributors in meeting their due financial obligations;

- the extent of government payments for the indigent population;
- the amount of revenue targeted from contributors using payroll and other deductions as a percentage of earnings or as flat rate. The implications of sharing the deduction between employers and employees are discussed in Chapter 7;

- amount targeted from copayments which are paid directly to providers.

Table 6.7 Baseline Magnitudes and Projections of Income and Revenue for NHIP Options, 2002-2010

Inputs/Variables	Baseline Data (2002)	Assumptions/Projections
1. Total Insurable earnings or real wage base ($bn)	248.4	Official data. Same data as estimated in the module on labour Force and earnings.
2. Compliance rate (%)	70	Official data. Estimate is based on compliance data from income tax and national insurance/social security departments. Their experience is used to estimate and project compliance at about 70% of due contributions.
3. Expected income base ($bn)	173.9	Official data. Changes in the expected income base over the period reflect changes in insurable earnings adjusted for compliance.
4. Gov't payments for indigent population ($bn)	PT: 4.49 GPP: 2.92 SAP: 4.76	Official data. Estimates reflect changes in the per capita cost of services and administration in each option (identified in the module on Total Cost).
5. Copayments (% and $bn)	PT: 5% / 1.14 GPP: 10% / 1.48 SAP: 15% / 3.62	Baseline data and projections are assumed at 5%, 10% and 15% respectively over the period 2002-10.
6. Required contributions from Employed Labour Force—ELF ($bn)	PT: 17.17 GPP: 10.44 SAP: 15.77	This represents the contributions required after deducting government payments for indigent and copayments from the total cost-income needed for each option. Changes over the period reflect changes in these 3 variables.
7. Total income ($bn)	PT: 22.79 GPP: 14.84 SAP: 24.15	Same as the estimated cost of each option.

Source: Author's estimations.

6.5 Mapping of Mathematical Relations and Equations

Based on the framework suggested by Cichon et al., (1999) the 'critical indicator' linking the variables in the financial modelling of social health insurance schemes is the necessary pay as you go contribution rate (PAYGR) i.e. what percentage of the earnings of contributors will be deducted so that projected inflows (income) and outflows (expenditure) in the plan are equalised. This break-even rate seeks to ensure at best a balanced portfolio or at worst temporary cash flow deficits that are not large and persistent thus necessitating higher contribution rates or reduced benefits. This is one of

the key reasons for including an additional expenditure item in the form of reserves which can be drawn down during periods when actual income is less than expected. The reverse situation may be desirable, i.e., when surpluses accrue, but where profit making is not the fundamental objective of the plan contributors may press for a reduction in the contribution rate or an increase in benefits.

In equation form:

$$PAYGR(t) = \frac{[TE(t) - OY(t)]}{TAB(t)}$$

where, **PAYGR** = required pay as you go rate

TE = total expenditure

OY = other income i.e. copayments and Government's contribution for the poor. (In some cases other sources of income to the insurer may include investment and penalties for non-compliance. These are not considered in the modelling).

TAB = total assessment base or sum of the earnings of the employed population, and

t = refers to the year.

On the inflows side, the main components will be:

a) Contributions received from the working population: the amount received will be related to the size of the working (employed) population and the average level of earnings (which will establish the size of the assessment base) and the contribution rate. Adjustments will have to be made for compliance levels.

$$CY(t)=TAB(t)*PAYGR(t)$$

Where **CY** = total contribution income.

b) Contribution from Government on behalf of the indigent: the amount will depend on the size of the indigent population and the percentage of the benefit cost incurred by the group that Government is prepared to pay (the alternative being to share this cost with the working population).

$$IY(t) = IPOP(t) * \left(\frac{TE}{POP}\right)t$$

Where **IY** = Government's subsidies for the indigent

IPOP = size of the indigent population, and

TE/POP = average cost of the plan to the beneficiary population.

c) Copayments: these are paid directly by patients and can be varied to achieve particular objectives such as to control cost and utilisation or to encourage consumption of certain services. They may be defined relative to all cost (i.e benefits and administration) or cost of benefits only. In the modelling, they are used as a source of income to help defray all cost. This means that a copayment rate of 5% of all cost would translate into a slightly higher rate if computed against cost of service benefits only. Since copayments can be fixed in absolute or percentage terms one of its consequences is to lower the contribution rate.

.CPY(t)= [TBE(t)+AE(t)]*p

Where **CPY**= income from copayments

TBE = total cost of the benefit package

AE= cost of administration;

And **p** =copayment rate.

On the outflows or expenditure side, the main components will be:

a) The cost of benefits: this figure will depend on items/services covered, the rates of utilisation by the beneficiary population and the average cost per item/service.

TBE(t)= BE1(t) + BE2(t) +BE3(t) +.....BEn(t)

Where **BE1... n** = cost of care services in categories 1... n eg. inpatient care, ambulatory care, drugs, diagnostic services

b) The cost of administration: this covers recurrent and capital costs of the insurers as well as the regulatory agency. This is usually represented as a percentage of the cost of the benefit package.

AE(t)=TBE(t)* a

Where **a** = percentage of benefit cost allotted to administration.

c) The cost of the reserves pool: the size of the pool depends on expectations with respect to cash flow and dealing with contingencies. A reserve pool covering 2-3 months of expected expenditure is targeted to be built up over the medium term. For the modelling exercise, reserves are included as part of administrative cost.

6.6 Results of Modelling of Inflows and Outflows

The sixth module, the results module, presents data on two of the critical outcome indicators of the modelling exercise i.e. the PAYG Rate representing the magnitude of the deduction from earnings, and the percentage of total cost to be borne by the government.

Using the features of each option (PT, GPP and SAP) outlined in Table 6.1 as the point of departure, the simulation exercise estimated the expected changes in five key sets of variables (identified in 6.4 above i.e. economic and demographic, labour force and earnings, health utilisation and expenditure, administration and reserves, and income) over the period 2002-2010 (with 2002 serving as the base year). The detailed results of the financial modelling are contained at Appendix 6.1.

A summary of the results focussing on expected total expenditure, the PAYG Rate and the percentage of total cost to be funded by the government in each option is presented in Table 6.8.

Table 6.8 Summary of Simulation Estimates of NHI Options, 2002-2010

Variables	2002	2003	2004	2005	2006	2007	2010
A. Prototype (PT)							
Total Cost ($bn)	22.79	23.33	23.87	24.40	24.83	25.26	26.88
PAYG Rate (%)	9.9	9.9	9.5	9.5	9.5	9.6	9.7
Government share in Total Cost (%)	29.5	29.1	28.2	28.2	28.3	28.2	28.3
B. Green Paper (GPP)							
Total Cost ($bn)	14.84	15.07	15.41	15.76	16.10	16.33	17.37
PAYG Rate (%)	6.0	6.0	5.7	5.7	5.8	5.8	5.9
Government share in Total Cost (%)	28.8	28.3	27.7	27.7	27.7	27.7	27.7
C. Stakeholders'Alternative (SAP)							
Total Cost ($bn)	24.15	24.73	25.3	25.88	26.34	26.90	28.49
PAYG Rate (%)	9.1	9.2	8.7	8.7	8.8	8.8	8.9
Government share in Total Cost (%)	28.2	27.7	27.2	27.2	27.2	27.1	27.2

Source: Author's estimations.

In terms of expected total cost:

- the SAP shows the highest expected cost because, except for catastrophic care overseas, it offers a near comprehensive package of benefits. However, it has higher administrative costs (15%) because of its reliance on multiple private insurers and on fee for service claims processing and remuneration systems. The PT has the most comprehensive benefit package but has a lower administrative

cost (7.5%) reflecting the economies of scale of a single insurer-payer and a more tightly controlled global budgeting remuneration system. The GPP has the lowest cost because, even though it has an administrative cost of 15% reflecting the implications of multiple insurers-payers and fee for service remuneration systems, it offers a relatively limited benefit package.

In terms of the PAYG Rate:

- the PT has the highest PAYGR (averaging about 9.6%) because of its comprehensive benefit package and its relatively low level of copayments (5% of costs) which means that the majority of revenue needed to cover costs will be derived from payroll deductions (for formal sector workers) and other earnings-related deductions (for own account workers). The SAP's PAYGR averages about 8.8% because of its near comprehensive benefit package and its relatively high level of copayments (15%) which serves to reduce the revenue requirement for earnings-related deductions. The PAYGR for the GPP averages about 5.8% largely because of its relatively limited benefit package.
- It should be noted that the PAYGR is also affected by the magnitude of the payments made by the government on behalf of the indigent population. Since this percentage is not affected by the scope of the benefit package in each option, it does not play a critical role in the ranking of options according to PAYGR requirements.

In terms of the percentage of funding to be borne by government:

- since the size of the indigent population (whose costs including copayments will be met by government) is the same for each option, the key variables determining the percentage of total cost borne by the government are differences in the size of the benefit package and magnitude of copayments payable by government workers (about 11% of workforce). In the PT, the government's share of cost is estimated to be highest (average about 28.3%) because of its comprehensive package and relatively limited copayments (5%). In the GPP (average 27.7%) and PT (average 27.2%) the share of government funding is lower than in the PT largely due to differences in copayment rates (10% and 15% respectively). Government's share may be reduced depending on agreement with workers on sharing the contribution requirements.

It should be noted that the variability observed in the PAYGR and Government share of costs during the earlier period of the modelling, 2002-2004, is due largely to the effects of changes in the actual values of certain macro-variables - real GDP changes which affected the insurable wage/earnings base and expected earnings base after adjusting for compliance levels; changes in the estimates of the percentage of persons living below the poverty line; and in the distribution of the workforce. The implications of the PAYGR and government share of costs for current health spending patterns and affordability are discussed in Chapter 7.

6.7 Scenario and Sensitivity Analyses

To examine the implications of changes in the magnitudes of certain key variables on the robustness of the results, 2 types of analyses were conducted:

(1) Scenario Analysis to consider the likely impact on the results indicators of changes in several key variables simultaneously. This was done through definition and examination of a 'best case' and 'worst case' scenario; and
(2) Sensitivity Analysis to consider separately the likely impact on the results indicators of changes in specific variables.

The key variables considered in the Scenario and Sensitivity Analyses are as follows:

i) Changes in real GDP: This measures broadly the capacity of the economy to sustain an NHIP (or any health system) and it plays a major role in determining the magnitudes of a number of related variables used in the modelling exercise. These include the levels of employment; the wage-earnings base; the real earnings per worker per annum; the economic dependency ratio and the percentage of persons living below the poverty line. The analysis examines the likely effects of real GDP growth rates of 2.5% and 0.5% as compared to the baseline estimate in the projections of 1.5%.

ii) Employed Labour Force: This determines the number of workers whose wages-earnings will be directly affected as they share the costs of each NHIP. The size of the employed labour force determines the magnitude of the insurable wage-earnings base, the average wage-earnings per worker and the percentage of persons living in poverty. In the modelling, the scenario analysis considers the likely effects of an increase in the employed labour force to 90% and a decrease to 80% as compared to the results observed from using the baseline projection of 86%.

iii) Total wages-earnings as a percentage of GDP: This determines the insurable wage base and directly influences the magnitude of the contribution to be borne by each worker. The analysis considers the implications changes in the wage-earnings base to 70% of GDP in the 'best case' and 62% in the 'worst case' when compared to the effects of the baseline projection of 68%.

iv) Compliance Rate: At best, this requires that all contributions are paid in full at the prescribed intervals. Despite the threat of legal and financial penalties, non-compliance has been a major area of concern for the respective agencies collecting statutory deductions in Jamaica i.e. income and General Consumption Tax, contributions to the National Insurance Scheme and the National Housing Trust. The Tax authorities estimate that the level of compliance for personal and corporate income tax is about 40% to 50% with major problems encountered in collections from the self-employed and with receiving timely returns from employers who are responsible for deducting and transmitting payments on behalf of employees. For General Consumption Tax, the estimated level of compliance is about 75%. In the case of the NIS, the majority of contributors are employees/employers in the formal sector and the estimated level of compliance is about 68%. The NHT has a better record of compliance with the level reaching about 80%.

The NHIP is not expected to be immune from the general problems with compliance especially with respect to collections from the self-employed (and to a lesser extent with timely returns from employers and even the Government). The baseline model assumes an overall compliance rate of 70%. The financial viability of the NHIP will be tested using two different levels of compliance –an increase to 80% in the 'best case' scenario and a decrease to 65% in the 'worst case'.

v) Moral Hazard: This includes a range of influences on the pattern and magnitude of likely demand and cost of services such as utilisation changes with universal access to health services, the behavior of providers, the mode of reimbursement and changes in the supply of services. The simulation exercise tracks the likely impact on the PAYGR and government share of costs in each option of a 10% increase in utilisation and costs due to moral hazard.

vi) Administrative Cost: The baseline data assumes steady state administrative cost of 7.5% in the PT and 15% in the GPP and SAP. This is generally higher than what obtains in most Developed Countries (Cichon et al., 1999; Saltman et al., 2004). It is also lower

than the 20%-30% which private health insurers in Jamaica indicate that they are carrying. One of the key issues in Jamaica is the relative cost of reaching and collecting contributions from the large informal sector and even within the formal sector the large group of own account workers (about 34% of the employed labour force). Another key issue is the cost of the claims process since the majority of health providers are not on-line (in terms of computerised information systems).

There are also cost implications of having a choice of insurers as against a single insurer and of establishing a new regulatory institution as against utilising the existing Office of the Superintendent of Insurance (with extended jurisdiction).

The likely impact of these factors is considered as part of the administrative costs in each option. The analysis examines the implications for the results indicators of decreases in administrative costs to 5% for the PT; 10% for the GPP and SAP as well as increases to 10% and 20% respectively.

vii) Level of Indigence: Changes in the rates of employment and unemployment have direct implications for the level of indigence and the magnitude of contributions required from government to secure the membership and benefits of the poor in each NHIP option. The baseline projections assume an indigency rate of 20% of the population. In the analysis, this is varied to 15% in the 'best case' scenario and 24% in the 'worst case' scenario to examine the likely impact on the results indicators.

viii) Copayments: These can be used for several purposes such as sharing the costs of services, deterring unnecessary demand, reducing the contribution rate and ensuring a certain amount of readily available funds to the providers. The impact of variations in the percentage copayments will be reflected in variations in the PAYGR and government share of costs. The baseline projections assume copayments of 5% in the PT; 10% in the GPP and 15% in the SAP. These are varied to examine the likely effects of an increase in copayments to 10% in the PT; 15% in the GPP and 20% in the SAP.

Except for changes in copayments, the Scenario Analysis combined all the other key variables into 2 clusters reflective of the 'best case' and 'worst case' for each NHIP option. The combinations and results when compared to the baseline values are shown in Table 6.9.

The results indicators show that in the 'best case', the total cost is expected to decline and PAYGR is likely to be reduced to 8.2%; 4.9% and 7.5% for the PT, GPP and SAP

respectively compared to the 9.6%; 5.8% and 8.8% in the baseline scenario. On the other hand, these indicators would be negatively affected by the changes assumed in the 'worst case scenario' and, with a general increase in total cost, would rise to 12.4%; 7.6% and 11.5% respectively.

In terms of the government's share of total costs, the analysis shows that in the 'best case' scenario, this share may be reduced to 23.8% in the PT; 23.2% in the GPP and 22.7% in the SAP while in the 'worst case' the share would be increased to 31.8%; 31.3% and 30.7% respectively.

Table 6.9 Variables Used and results in Scenario Analysis

VARIABLES	BASELINE	BEST CASE	WORST CASE
Real GDP growth per annum (%)	1.5	2.5	0.5
Employed Labour Force as % Actual Labour Force	86	90	80
Total wages-earnings as % GDP	68	70	62
Compliance rate (%)	70	80	65
Moral hazard effect: utilisation and cost of package	Utilisation grows in line population adjusted for growth of elderly population	Utilisation and cost same as baseline	Utilisation and cost increase by 10%
Administrative cost as % benefit	PT: 7.5% GPP: 15% SAP: 15%	PT: 5% GPP: 10% SAP: 10%	PT: 10% GPP: 20% SAP: 20%
% Persons living below poverty line	20	15	24
RESULTS			
PAYG Rate (%)	PT: 9.6 GPP: 5.8 SAP: 8.8	PT: 8.2 GPP: 4.9 SAP: 7.5	PT: 12.4 GPP: 7.6 SAP: 11.5
Government Share of Total Cost (%)	PT: 28.3 GPP: 27.7 SAP: 27.2	PT: 23.8 GPP: 23.2 SAP: 22.7	PT: 31.8 GPP: 31.3 SAP: 30.7

Source: Author's estimations

The Sensitivity Analysis seeks to narrow down the range of influences on the results indicators to consider the impact of selected individual variables—the compliance rate; the level of indigence; moral hazard and cost of the benefit packages and the level of copayments. The impact of these changes is shown in Table 6.10.

Generally, the results indicators are quite sensitive to changes in the selected variables. Using a rough 'elasticity' measure to estimate the percentage change in the results

indicators in relation to the percentage change in the select variables, it appears that the compliance rate is perhaps the most critical variable in terms of its impact on the PAYGR, and the indigence rate on government's share of cost.

Table 6.10 Sensitivity Analysis: Implications of Changes in Select Variables

Variables	Indicators	PT	GPP	SAP	Comments
Baseline	PAYGR (%)	9.6	5.8	8.8	Baseline estimates from Table 6.3
	Gov't cost share (%)	28.3	27.7	27.2	Baseline estimates from Table 6.3
1. Compliance: increase from 70% to 80%	PAYGR (%)	7.9	4.8	7.3	Reduction: higher compliance levels are reflected in higher expected income-earnings base and reduced PAYGR in all options. Elasticity=1.2
	Gov't cost share (%)	28.3	27.7	27.2	Unchanged: since only the expected earnings base will be affected not the distribution of cost shares.
2. Indigent population: increase from 20% to 24%	PAYGR (%)	9.0	5.4	8.3	Reduction of the PAYGR comes about because a larger share of the cost of insuring the population falls on the government. Elasticity=0.3
	Gov't cost share (%)	31.8	31.3	30.7	Increase: Government will be faced with a larger burden of cost with an increased level of indigency. Elasticity=0.65
3. Moral hazard: utilisation and cost increase by 10%	PAYGR (%)	10.5	6.3	9.7	Increase: higher levels of utilisation and cost will lead to an increase in the PAYGR. Elasticity=0.9
	Gov't cost share (%)	28.3	27.7	27.2	Unchanged: the costs borne by government also shift by 10% so that its overall share is the same.
4. Copayments: increase from 5%, 10% and 15% to 10%, 15% and 20% resp. for PT, GPP, SAP	PAYGR (%)	8.9	5.3	8.1	Decrease: higher copayments / out of pocket payments reduce the burden on payroll deductions so the PAYGR declines. Elasticity=0.1 to 0.3
	Gov't cost share (%)	27.7	27.1	26.6	Decrease: as above, the higher the level of copayments the lower will be the burden on government in sharing the total cost of each option. Elasticity=<0.1

Source: Author's estimations

6.8 Summary of Findings

This Chapter dealt with the financial modelling aspects of the study and sought to specify and quantify the likely financial implications of the proposed NHI options over the period 2002-2010. It defined the main features of each option, identified and discussed the key assumptions and specified the data modules for derivation of the component and total costs. From these estimates, the financing needs for each option were derived through a

combination of necessary pay as you go rate (PAYGR) relating to contributions from the working population and allocations from government to cover the contribution requirements of designated groups in the population.

Differences in the components of the benefit package, administrative arrangements (single vs. multiple insurers-payers) and levels of copayments heavily influenced the magnitude of expected cost in each option. This was borne out in the detailed estimates following a process of specification of key variables, assumptions and estimation equations and articulation of these through the six main data modules over the period:

- economic and demographic;
- labour force and earnings;
- health services utilisation and expenditure;
- cost of benefits and administration;
- contribution revenue and other income;
- necessary PAYGR and contribution share of government.

Overall, it was estimated that, in the baseline scenario, financing the PT would require a PAYGR of about 9.6%; the GPP 5.8% and the SAP 8.9%. In each option it was expected that the PAYGR would have to be supported by allocations from government averaging about 28% of total cost (with some variability among options depending on the rate of copayments and the actual magnitude paid by government workers). Government's share of total cost may be less depending on agreement with workers on dividing the contribution requirements.

Scenario ('best' and 'worst' cases) and sensitivity analyses were also conducted to consider the likely impact of changes in the magnitudes of key variables such as growth of GDP; levels of employment; rate of compliance in paying contributions; moral hazard in utilisation; administrative costs; levels of poverty and levels of copayments. Generally, the results showed that (using an 'elasticity' measure) the most critical variable affecting the PAYGR was the compliance rate while the level of poverty had the largest impact on the share of government's contribution obligations.

CHAPTER 7: EVALUATION OF FINDINGS FROM FINANCIAL MODELLING

7.1 Purpose of Analysis

The approach to, baseline assumptions, analyses and results of the financial modelling presented in Chapter 6 provided vital data on the components, cost and contribution requirements of the NHI options. Additionally, the scenario and sensitivity analyses explored further the likely impact of key variables and the robustness of the findings. However, while this is a necessary initial step i.e. estimation and specification of the main quantitative aspects of the design of NHI, it is not sufficient for policy decision-making. More rigorous analysis is required to 'go behind the numbers' and assess the financial estimates against key policy objectives as well as the overall feasibility and acceptability of the options (Grindle and Thomas, 1991; Ham and Hill, 1993; Walt, 1994; Cichon et al., 1999; Gilson et al., 1999).

This Chapter focuses on evaluating the broader policy aspects of the findings of the financial modelling. The purpose is to derive what may be termed the 'most preferred option' for Jamaica through an assessment of the likely implications of each option against a select list of design criteria reflecting key policy concerns on health financing systems and on NHI. In this respect, the choice of evaluation criteria is critical since the options are being assessed in an *ex ante* manner. As discussed in Chapter 3, the actual criteria that were chosen related to best practices emerging from the international literature review that were considered to be appropriate for Jamaica given its health financing concerns, the expressed positions of stakeholders as well as the goals and objectives in the Government's GPP.

The evaluation and discussion of the findings in this Chapter are organised as follows:

- Firstly, it will examine the likely implications for households, business (including health insurance carriers), government and the health system (in particular public and private health service providers) arising from each option;
- Secondly, it will review the dimensions of the key criteria, the weighting approach and scoring method that were used. It will then apply the criteria to each option and assess shortcomings or merits in a comparative framework with a view to developing some form of ranking of options - this will then be aggregated to derive a preferred option;

- Thirdly, it will discuss some of the key supportive developments and institutional arrangements, some of which may involve additional expenditure, which must be implemented for each option to work well;
- Fourthly, it will briefly discuss the methodology and outcome of the evaluation with particular attention to the preferred option in the light of the theory and international evidence on national health insurance systems.

7.2 Likely Implications of NHI Options

Each NHI option has major implications for direct payers and contributors—the government, employers and workers and households. For each group, despite mixed reactions of support or opposition or wait-and-see, issues of affordability loomed large especially in a context of constrained national and household resources. In addition, there will be implications for public and private providers to relate to a new purchasing agency(ies) armed with significant bargaining power. Some of the key issues for each specific group are discussed below.

a) Implications for Government

In a context where the total health spending of the Government was about J$21 billion in 2006 or 5% of total government expenditure, there are three key inter-related concerns which would arise from implementing any NHI option. The first relates to affordability at the macro (national economy) level; the second to the control mechanisms to manage expenditure given that a major lever in the hands of government i.e. the budget allocation to health would be largely out of its hands; and the third the loss of policy control over user fees in public facilities.

At the macro level the NHI was being considered at a time when the overall economic difficulties were persisting and when, despite more than 6% of the GDP being spent on health services in 2006, a number of health needs were not being met and the health sector was 'underfunded'. With an NHI it was expected that there would be an initial upward shift in overall resources to the health sector. In a fiscally constrained environment, this may be interpreted (and actually was by some especially in the MOF) as making the health sector more costly and a net transfer of resources from other sectors. On the other hand, it could be seen (and actually was by some others especially in the MOH and associations of health professionals) as more earmarked financing for health

thus enabling the provision of more and better services to the population. The direct cost to the Government would be:

- to provide adequate funds for paying its share of the contribution requirements of its workers (estimated at 11%-13% of the employed labour force in the modeling);
- to provide adequate funds for full payment of the contributions of the indigent (estimated at 20% of the population in the modeling);
- to provide funds to cover those services in the public health system which are excluded from the NHI benefit package (such as MOH Head Office expenses, public health/environmental health activities; regulations; research and training as well as ambulatory care in public facilities in the case of the GPP);
- to provide funds or guarantees for the start-up capital—this could be in the form of loans that could be repaid from NHI funds over time.

In terms of affordability to government, the data from the financial modeling suggest that government's cost share in the near-comprehensive packages of the PT and SAP options and in the narrower package of the GPP option would be about 28%. Expenditure by government to cover non-NHI services would be considerably reduced so that its total outlay on all health services may be about 35%-40%. This is significantly less than its current expenditure in the health sector which, based on national health accounts data in Table 4.4 of Chapter 4, indicated that government was responsible for about 56% of national health expenditure in 2006. It also gives support to some who view an NHI as a means to reduce government's expenditure in health. This means that the implication of affordability and finding new money for NHI may be of greater concern to direct contributors (workers and businesses) than to the budget officials in the Ministry of Finance. For the latter group, the concerns over affordability would have shifted to the likelihood of increased inflation if businesses transferred the majority of contribution costs to consumers and of decreased employment if businesses are unable or unwilling to meet (share in) the contribution costs on behalf of workers.

The second major implication is in relation to cost control. NHI takes a large measure of financial control in health out of the hands of government. It 'locks in' government to committed, timely and predictable spending through contributions on behalf of its workers and the indigent - this is quite unlike traditional budgetary allocations to health which are more firmly within its control and could be increased or decreased as resources and priorities dictated. Financial and cost control would now become the function of

insurer(s) and contracted health providers whose interests and priorities would (logically) not always match those of government. Guidelines would be needed from Government to ensure the establishment and implementation of cost-control measures while leaving adequate flexibility and discretion to the insurer(s) to manage the business of NHI. Cost-control measures could take several forms such as limits on the contents of the package, adoption of rational drug use principles, preference for global budgets and capitation as the modes of reimbursement for providers, intensive utilisation reviews, a system of penalties on errant insurers and varying the level of copayments.

The third implication relates to loss of policy control over the design, dimensions and implementation of user fees in public health facilities. For consistency, this would need to be more directly aligned to the copayment provisions and arrangements in each option so that public and private providers operate with broadly similar rules. Compared to user fee collections of about 10% of MOH budget and 11% of RHAs budget in 2006/7, the assumptions and estimates of copayments suggest that collections would most likely be less the 2006/7 percentages in the GPP and PT and more in the case of the SAP.

b) Implications for Employers and the Business Community

While the financial modeling estimated total contributions from the employed labour force, it did not make any specific assumptions on the sharing of compulsory deductions for NHI between employers and employees. However, following the provisions for current statutory deductions in the NIS (shared 50:50) and NHT and Education Tax (shared 40:60 between employees and employers), it is expected that employers (after negotiations) may have to meet around 50% or more of the contribution requirement. (In the case of own account operators, this is expected to be 100%). Business theory suggests that sharing of NHI deductions by employers will increase cost of labour and final product, reduce competitiveness, decrease sales and net income and lead to a decline in profitability. So, in addition to legal commitments to share contributions on behalf of workers, businesses may have to do so with diminished profits in the short term. Given the existing burden of statutory deductions for corporate tax and other social levies amounting to about 44% of earnings (discussed in Chapter 4), any new shared deduction for NHI purposes would be of major concern to employers.

This scenario however is more fluid and varied since the magnitude of changes in profitability would depend on the position of firms in the marketplace, their ability to pass on costs to consumers, the reaction of employees in terms of productivity levels as well as

the ability of and decisions by several business firms in substituting higher cost current private health insurance packages for workers with lower cost NHI packages. For some small businesses with low profit margins and flexible workforce arrangements, compulsory shared deductions may lead to reduction in employment, even lower profitability and even closure. On the other hand, for many without private health plans for their workers, mandatory NHI could serve to replace the unplanned but ever-present financial demands placed on them by several employees for 'salary advances' to assist in meeting health bills.

As discussed in Chapter 5, for existing private insurers, each NHI option may be construed as an opportunity or threat depending on the role (or not) assigned to them. At best, business opportunities could be seen as expanding significantly in the case of the GPP and SAP which provide for choice of insurers. At worst, their business could be curtailed significantly under the PT which provides for a single insurer leaving them to offer largely 'wrap-around' supplementary or complementary benefit packages to their clientele (and full duplicate and/or 'deluxe' packages according to the preferences of some of their high-income subscribers).

c) Implications for Workers and Households

There would be mixed implications in each option for workers and households in terms of the quantum and sharing of contributions and of copayments. For some the contribution (through PAYGR which varied from about 5.8% in the GPP to 9.6% in the PT), whether shared or not, could be seen as a burden if they already had private health insurance and did not wish to curtail or terminate their coverage or if they did not think they needed health insurance because care was available at zero or low cost in the public sector. More particularly, workers in the formal sector already confronted with several deductions from their earnings (for income tax and education, housing, national insurance deductions) would be anxious to know whether there were any implications of this additional contribution on the employment considerations of their employers.

On the other hand, NHI would be readily accepted by workers and their dependents who sought but were denied health insurance by private insurers as well as by those with private insurance premium rates that were higher than the amounts required in the PAYGR. (In 2000, it was estimated that the average premium for a basic medical plan was about 12% of average wage and of a major medical plan about 15%). For some others also, the principal attraction of an NHI would be that, with insurance cover, there

would be more choice of health provider especially in terms of seeking care in the private sector rather than being restricted to publicly provided services only.

On copayments, the implications for households would vary. Some with private insurance plans, would compare likely copayments in each option with similar payments in their plans; others would compare copayments to the levels of out of pocket payments for health services—this amounted to about 2.5% of average household expenditure (STATIN and PIOJ Survey of Living Conditions). On the other hand, for some benefiting from user fee exemptions in the public health sector, copayments provisions may lead to loss of their exempt status.

d) Implications for Health Service Providers

Each NHI option would bring noticeable changes in the marketplace with public and private service providers having to compete more directly for patients and funds. In this 'money follows the patient' system, public providers would be newcomers since the majority of their funds have traditionally been derived from government allocations rather than payment for services from patients. Their experience with user fees suggest that they would need to make major changes in their administrative systems, business methods and 'culture' (eg. admissions, billing, transmitting claims) if they are to operate successfully in an NHI environment. These changes are critical given the propensity of insured patients to seek more private services

7.3 Review and Results of Application of Evaluative Criteria

Each NHI option has been specified in a manner that addresses the core questions faced by a health financing system. As indicated in Table 3.2 (Chapter 3), these core issues have been used to specify the design and assumptions related to each option. In addition, they have been used to develop the list of evaluative criteria and indicators drawing on 'best practices' emerging from the literature, from the views of stakeholders in Jamaica when posed with the particular question on what criteria they would use to evaluate the feasibility of an NHI plan (reported in Section 6.5 of Chapter 6) and from the results of the financial modelling. Table 7.1 summarises the mix of criteria and indicators to be used in the evaluation.

Table 7.1 Summary of Evaluative Criteria and Indicators

CRITERIA	INDICATORS
1. Breadth of coverage	a) % population eligible for membership at outset
2. Risk pooling	a) Single risk pool
3. Depth of benefit package	a) Comprehensive non-catastrophic benefits
	b) Inclusion of catastrophic care
4. Equity in financing	a) % earnings vs. flat rate contribution
	b) % copayment vs. prepayment
	c) Subsidies by government for the poor
5. Efficiency	a) % cost of administration
	b) Use of capitation and global budget to pay providers
6. Revenue generation	a) Net revenue
7. PAYGR	a) % deduction from earnings
8. Contribution share by government	a) % total cost borne by government

Source: Author's compilation

The overall ranking of NHI options emerges from the scoring method that is used in relation to the indicators and criteria. The evaluation was conducted using unweighted and weighted values with the former using equal weights for each criterion and the latter using weights for three criteria reflecting the importance assigned to them by key stakeholders. Two rounds of scoring were used:

i) in the unweighted approach, each criterion was 'equally weighted' and the scoring was based on assessing and ranking each of the three options on whether it could be placed as performing first, second or third in relation to each criterion and indicator. The sum of the placements was used to determine the overall rank of the option. With 8 criteria and 12 associated indicators, this meant that best likely attainable score was 12.

ii) in the weighted approach, net revenue, equity and efficiency were viewed by stakeholders as the most important criteria and given a similar weighting of 3. The other criteria receiving a weighting of 1. As in the unweighted method (above), the ranking of options according to each criteria i.e. first, second or third was applied so the combination of the placement score and weight determined the overall score and rank of the options. With weighting of the above three criteria (and the same 12 associated indicators), the best likely attainable score was 24.

The results of the ranking are shown in Tables 7.2 (unweighted) and 7.3 (weighted). In relation to Table 7.2 and unweighted values:

a) Breadth of coverage: each option receives a score of 1 since each proposes universal eligibility and coverage;

b) Risk pooling: the PT scores better than the GPP and SAP (both of which involve multiple pools) because it places the eligible population in a single pool (more solidarity, no segmentation or adverse selection or cherry picking);

c) Depth of package: the PT scores better because of its comprehensive coverage and inclusion of catastrophic benefits. The GPP scores better than the SAP because of its inclusion of catastrophic coverage but scores less than the SAP because of its limited benefit package.

d) Equity in financing: the PT scores better than the other 2 options because it proposes contributions as a percentage of earnings hence 'proportionality' as against the GPP and PT which propose flat rate payments irrespective of earnings. Also copayments in the PT are lower (5%) showing its greater emphasis on pre-payment rather than point of sale payment. Because subsidies for the poor are common in all 3 options, the score was similar.

e) Efficiency: the PT scores better due to its lower administrative costs (7.5%) and use of capitation and global budgets as payment mechanisms. Despite having the same level of administrative costs and fee for service reimbursements, the GPP scores slightly better than the PT because its payments systems propose to use rates derived from costing publicly provided services rather than the PT which relies on usual customary and reasonable rates in the private sector.

f) Net revenue: the PT will need to generate more revenue than the other two. But, its administrative cost is expected to be lower so the net revenue figure is larger.

g). PAYGR: this was derived from the financial modelling. In terms of magnitude, more (9.6%) will be expected from contributors for the PT than for the GPP (5.85) or SAP (8.8%).

h) Share of government contribution: in terms of magnitude, the PT scored less than the other 2 because the share of government is estimated to be the highest (28.3%) largely due to the lower levels of copayments by members.

Overall, using unweighted values, the PT received the lowest score (16) hence was ranked the highest followed by the GPP (22) and SAP (23).

Table 7.2 Results of Application of Evaluative Criteria and Ranking of NHI Options (Unweighted Values)

Criteria / Indicators	**NHI OPTIONS**		
	GPP	**SAP**	**PT**
1. Breadth of coverage	1	1	1
a) % population eligible for membership at outset	Universal: 1	Universal: 1	Universal: 1
2. Risk pooling	2	2	1
a) Single risk pool	Segmented: 2	Segmented: 2	Single: 1
3. Depth of benefit package	4	4	2
a) Comprehensive	Limited: 3	Broad: 2	Comprehensive: 1
b) Inclusion of catastrophic care	Yes: 1	No: 2	Yes: 1
4. Equity in financing	5	6	3
a) % earnings vs. flat rate	Flat rate: 2	Flat rate: 2	% earnings: 1
b) % copayment-prepayment	10%: 2	15%: 3	5%: 1
c) Subsidies for poor	Yes: 1	Yes: 1	Yes: 1
5. Efficiency	4	5	2
a) % cost of administration	15%: 2	15%: 2	7.5%: 1
b) Use of capitation and global budget	FFS at public rates: 2	FFS at UCR rates: 3	Capitation and global budget: 1
6. Revenue generation	3	2	1
a) Net revenue	85%: 3	85%: 2	92.5%: 1
7. PAYGR	5.8%: 1	8.8%: 2	9.6%: 3
8. % share of contribution by government	27.7%: 2	27.2%: 1	28.3%: 3
OVERALL SCORE	**22**	**23**	**16**
RANK	**2nd**	**3rd**	**1st**

Source: Author's estimations

In relation to Table 7.3 and weighted values:

a) the scores derived from applying the following criteria remained unchanged because their weighting did not change - breadth of coverage, risk pooling, depth of benefit package, PAYGR and contribution share of government.

b) for equity, efficiency and net revenue generation, the scores diverged significantly because of the weighting applied. However, the PT still received the best scores on each of these criteria because of its design features.

Overall, the application of weights to reflect stakeholder views did not affect the overall ranking of the options. The PT with an overall score of 28 still emerged as the best option followed by the GPP (46) and SAP (49).

Table 7.3 Results of Application of Evaluative Criteria and Ranking of NHI Options (Weighted Values)

Criteria / Indicators	NHI OPTIONS		
	GPP	SAP	PT
1. Breadth of coverage	(1) 1 = 1	(1) 1 = 1	(1) 1 = 1
a) % population eligible for membership at outset	1	1	1
2. Risk pooling	(1) 2 = 2	(1) 2 = 2	(1) 1 = 1
a) Single risk pool	2	2	1
3. Depth of benefit package	(1) 4 =4	(1) 4 = 4	(1) 2 = 2
a) Comprehensive	3	2	1
b) Inclusion of catastrophic care	1	2	1
4. Equity in financing	(3) 5 =15	(3) 6 = 18	(3) = 9
a) % earnings vs. flat rate	2	2	1
b) % copayment-prepayment	2	3	1
c) Subsidies for poor	1	1	1
5. Efficiency	(3) 4 = 12	(3) 5 = 15	(3) 2 = 6
a) % cost of administration	2	2	1
b) Use of capitation and global budget	2	3	1
6. Revenue generation	(3) 3 = 9	(3) 2 = 6	(3) 1 = 3
a) Net revenue	3	2	1
7. PAYGR	1 = 1	2 = 2	3 = 3
8. % share of contribution by government	2 = 2	1 = 1	3 = 3
OVERALL SCORE	46	49	28
RANK	2nd	3rd	1st

Source: Author's estimations

7.4 Supportive Developments and Institutional Arrangements

In addition to feasibility questions that may be answered by the financial modeling, the three NHI options would require supportive complementary actions by other agencies and institutions as well as specific new arrangements for their functioning. Some of these emerged from the views expressed by stakeholders and others have been identified from the literature review (Ron, 1994; Roemer, 1993; Normand and Weber, 1994; Eichler, 1999). Given the specific context in Jamaica in relation to institutions and systems, there are five key areas requiring concerted action: identification and registration of the poor; joint programs for improvements in collection and compliance in relation to statutory obligations; enhancement of the regulatory framework for health services and quality control by the Ministry of Health; visible improvements in the availability and quality of services in the public sector; and development of an appropriate information technology systems for managing NHI.

a) Identification and registration of poor: Each NHI option has proposals for including the poor as members with the government meeting their share of contributions. However, the tasks of identification, registration, monitoring and maintaining updated lists of persons below the poverty line are expected to be handled by the existing institutions using their methods, systems and personnel. As discussed in Chapter 4, the Ministry of Labour and Social Security largely through its PATH activities is the primary public agency with responsibility for identification and registration of the poor. However, it has been estimated that only about two-thirds of those who were deemed to be poor according to national surveys by STATIN and PIOJ, were registered by the PATH authorities (PIOJ, 2007). In addition, it was estimated that many persons deemed to be the 'working poor' (whose earnings placed them below the poverty line) were not being counted because of their employment status. The major gaps in the institutional capacity, methods and systems would need to be frontally tackled to ensure inclusion of the poor and for enhancing the feasibility of implementation of the NHI options.

b) Improved collection and compliance systems: According to estimates shown in Chapter 4, efficiency in collection of current statutory deductions by public agencies was just over 60%. Even private health insurance companies, despite their strong commercial interests and focus mainly on formal sector workers, have shown significant shortfalls in their collection of premiums (discussions with Supervisor of Insurance, 2001). In such an environment, especially with a high proportion of informal sector activities, the insurer(s) in the NHI options, in collaboration with other statutory collection bodies such as Inland Revenue Department, General Consumption Tax Office and National Insurance Scheme, would have to implement major nationwide programmes of capacity strengthening, public education and penalties to enhance collection and compliance.

c) Regulatory framework and quality control by MOH: Reliance on the systems and capabilities of the MOH for standards and regulations in relation to health professionals, health facilities and health services provided in the public and private sectors is a common feature of all NHI options. The actual performance of the Ministry has been quite weak in this regard (KPMG Consulting, 1998; DAH Consulting Inc, 2004). The demand for improved quality driven by more effective regulations in both sectors is expected to intensify as contributors and patients make a direct link between mandatory payments and health services. In this

respect, significant investment and changes will be required in the MOH's regulatory capacity for meeting the legitimate expectations of members in NHI.

d) Availability and quality of publicly provided health services: One of the primary reasons cited by stakeholders for an NHI was the financial constraint facing the public health system and its negative effects in terms on the availability and quality of services. Despite some successes of the Health Reform Programme (DAH Consulting Inc, 2004), the general perception from stakeholders was that major improvements were still needed in publicly delivered health services to ensure personnel and services were available when needed by patients. The emphasis placed on choice of health providers in each NHI option and the implications of efficient purchasing by the insurer(s) would require public health facilities to compete with their private counterparts for patients in a system where 'money follows the patient'. Evidence of their lack of preparedness to respond and compete may be drawn from the operations of the National Health Fund where private pharmacies account for more than 90% of the claims and payments for drugs purchased by members (Lalta and Barrett, 2004; Annual Reports of National Health Fund, 2005-2007).

e) Information Technology Systems: For a national programme involving about 2.7 million persons, each NHI option will require significant investment in IT systems and technologies to effectively manage the business of health insurance. This investment will involve much more than scaling up or adding extra facilities to those in private health insurance companies since key issues of national connectivity, economies of scale and confidentiality of information would need to be addressed collectively rather than separately by each insurer. Areas requiring joint decisions include unique membership identification cards, systems for claims adjudication, processing and payments as well as for reviews of treatment, prescribing and utilization.

7.5 Discussion of Methodology and Outcome of Evaluation

The methodology of using ranked positions to calibrate and score performance was applied primarily because of its simplicity and efficiency in application and because of the difficulties of trying to assign values in a continuum such as a Likert scale as to what constitutes 'good' 'fair' or 'poor'' performance. In addition, in an ex ante evaluation, the features and components are established by design with clear assumptions and specified

parameters. This meant that the task is more one of comparing designs rather than the uncontrolled variabilities associated with actual performance in implementation.

Given the above, the PT emerged as the preferred option since the benefit package was broader (thus taking on board one of the major concerns of stakeholders), the arrangements for pooling (in a single agency) emphasised solidarity and cross-subsidy as well as limited administrative costs, its contribution rate was proportional rather than regressive and percentage co-payments were smaller. On the other hand, the size of its benefit package was larger—this required a greater financial effort from contributors and government.

Overall, the GPP (with its smaller copayment, benefit package and related PAYGR) ranked second but this was based on scores that were only slightly higher than for the SAP. As such, it may be fair to say that attractive features such as the broader benefit package in the SAP were counterbalanced by less equity in financing and efficiency in paying service providers.

The PT, by design, as the preferred option may be seen as closer to the international best practice model than the other options in most aspects (benefit package covering most core and selected catastrophic health needs providing financial protection; contributions based on ability to pay; limited copayments). The one key area where it may be contentious is in terms of its administrative framework using a single agency. However, international theory and practice seems to be quite divergent and ambiguous on this since some value choice and competition among agencies e.g. Germany, Netherlands, Colombia while others prefer consolidation e.g. Taiwan, South Korea, Costa Rica. In the case of Jamaica, its small population size may be said to be a critical limiting factor to efficient risk pooling among competing insurers. As such, efficiency of pooling and economies of scale in administration are more likely in a single agency.

The emergence of a preferred option through design and financial modelling applications is a necessary but not sufficient basis for decision making and implementation success. There are other macroeconomic, social and political considerations that enter the decision framework (Ham and Hill, 1993; Walt, 1994; Barker, 1994; Gilson et al., 1999; Mills, 2007) and these are discussed in Chapter 8.

CHAPTER 8: DISCUSSION OF FINDINGS

8.1 Purpose of Analysis

This study sought to examine the motivations and attempt by Jamaica, a small lower middle income DC, to make a major shift in the mode of financing health services for the population from a largely tax-funded system to one largely dominated by compulsory contributions (officially described as 'NHI' in the government's GPP in 1997). Since, at the time of writing, the policy shift had been shelved, the study combined aspects of both historical analysis into the proposals for NHI by the government and the responses to these with simulations of other NHI options to determine, ex ante, what might be a desirable and feasible NHI design for the country.

As outlined in the conceptual framework (Section 3.2), the identification of a preferred NHI option for Jamaica in Chapter 7 followed a sequence of analysis that included review of international literature and local documents; context analysis; collection, collation and analyses of qualitative and quantitative data to define three NHI options; estimates of inflows and outflows in NHI options through financial modelling and assessment and ranking of options through application of evaluative criteria. The three NHI options examined were the government's GPP, the alternative proposed by some key stakeholders, the SAP, and a prototype, called the PT, which emerged from synthesis of what may broadly be called international 'best practice' in NHI.

This Chapter reviews and discusses the approach, assumptions and the general and specific findings of the research. The purpose is to examine the overall validity and usefulness of the methodologies employed, and, using information gleaned from the international literature on factors which can facilitate or frustrate the choice and implementation of NHI, to assess the results in terms of the viability and acceptability of the preferred option. Since this is an ex ante policy-oriented study, the Chapter explores some of the key issues and conditionalities in Jamaica that seemed to have derailed the shift to NHI since 1997 and which would most likely influence the transformation of what appears as a financially viable NHI option (identified in Chapter 7 as the PT) into an implementable decision.

It should be borne in mind that, as an *ex-ante* analysis, there are several aspects of the review and discussion of NHI options and their implementability which may be

considered more as conceptual and as comparisons of design against contemporary financing mechanisms.

The discussion of the findings is organised around the following sub-themes:

- the methodological framework, scope and limitations of the study as well as the likely influence of recent developments in Jamaica since the fieldwork was completed in 2001/2;
- the range of preconditions and facilitatory factors discussed in the international literature which seem to have influenced the decision to shelve NHI proposals in Jamaica in 1997 and their likely implications for future decisions on implementing NHI designs such as the PT;
- the influential role of key stakeholders on NHI in democratic policy-making environments like Jamaica and strategies to secure or strengthen the support of these stakeholders;
- comparison of the context, challenges of design and NHI options for Jamaica with the broader findings and postulates on health financing systems and the actual experiences of ICs and DCs.

8.2 Appraisal of Methodology and Recent Developments in Jamaica

The methodology, as discussed in Chapter 3, involved a sequence of actions and analyses commencing with specification of goals and objectives and climaxing with identification of a preferred NHI option through application of a defined evaluative framework. Critical components of methodology included:

- examination of the theoretical and empirical issues on health financing and NHI through a search and review of internationally published and grey literature;
- understanding the specific contextual issues and challenges in Jamaica through review of the relevant historical and contemporary documents on the society, economy, health sector and the NHI policy initiative;
- generation of qualitative data on health financing concerns and NHI through interviews with key stakeholders, key informants and participant observation;
- generation of quantitative data through scanning and extraction of materials from secondary sources;

- application of stakeholder and content analysis of qualitative data along with the tools of estimations and simulations of quantitative data to specify NHI options;
- specification and estimation of inflows and outflows in each option through financial modelling of baseline and alternative scenarios as well as sensitivity analysis.

In terms of the literature review, the study necessitated both a broadening of the focus to include materials on policy analysis and decision making as well as narrowing the search to materials directly relevant to NHI. Published databases such as Healthstar, Global Health and LILACS as well as websites of international organizations and library sources proved to be valuable in this search. As an ex ante study, the search also required seeking out grey literature from mostly unpublished project and consultant reports since the majority of the published materials in books and journals tended to focus on ex post analyses. This did not pose major challenges since direct contact with consultants and some officials in international organizations sponsoring these studies generated a reasonable volume of materials. Country data included Vietnam, Cyprus, Trinidad and Tobago, The Bahamas, Kenya, Mauritius and Belize.

Given the worldwide surge of interest, conferences and funded research studies since the mid-1980's on health financing reforms including NHI, inevitably, there are some articles and reports which were not reviewed largely because of availability or language issues. These included materials on French-speaking DCs and on Eastern European countries.

Contextual information on Jamaica was derived from extensive reports and documents at the MOH, PIOJ and publications by the local statistical office and central bank. In addition, supplementary information was readily available from the nearby libraries of the University of the West Indies and international organizations working in Jamaica. The relative paucity of published documents on the private health sector posed some challenges. This was dealt with through more rigorous reviews of national survey data (STATIN and PIOJ's Survey of Living Conditions) and discussions with relevant officers in private health facilities and insurance companies.

Qualitative data collection in Jamaica involved a 3-pronged approach of interviews with key stakeholders, use of key informants and participant observation (as a member of staff of the MOH working on health reform and health financing matters including NHI). In terms of specific materials from key stakeholders, both on their views on the government's GPP proposals and on their recommendations for NHI, the semi-structured

questionnaire was the chief instrument used to guide interviews and discussions as well as to organize responses to fit into the analytical framework. Efforts were made to secure views, responses and recommendations of stakeholders on certain matters through interviews guided by a checklist of questions. These were not always successful and triangulation techniques such as checking responses against speeches or comments in other settings were necessary.

Key informants proved to be a very helpful source of data on contextual issues in Jamaica in relation to historical development of NHI, economic developments, health and health financing concerns, social norms and dynamics and stakeholders in the health system.

Participant observation permitted tracking and monitoring the 'life' of the NHI policy as an insider from the early design stages in 1997 to its replacement on the policy agenda in 2001. This was done through normal employment-related interactions but also through close attention to public statements by government officials and stakeholders on NHI in the media, meetings and reports. One area which posed an understandable challenge was in relation to access to official, and in some cases, confidential materials and discussions while serving as a member of staff at the MOH. This was dealt with through securing clearance from higher officials for materials that could and could not be used as references. In this way, confidentiality was preserved. However, during the period of participant observation (1997-2001), it was noted that some issues deemed confidential in official documents and meetings were sometimes ventilated in some form in public and other meetings and, in some instance, in speeches by policymakers and in the media. These provided more easily accessible materials for referencing purposes and were relied upon to add to the insights and quality of the data.

Participant observation also involved direct and indirect interaction with key stakeholders and key informants. This necessitated trying to balance being a neutral unobtrusive observer as a student with being identified with and as a representative of the MOH who was expected to present and support the official proposals on NHI. This had both positive and perhaps some subjective implications in terms of methodology and data collection. On the one hand, first hand access to materials, meetings and key stakeholders was valuable in terms of the insights into issues and closeness to discussions (with clear observance of confidentiality provisions as described in the previous paragraph). On the other, this closeness may have affected to some extent the 'formalness' in interviews from a pure research viewpoint and perhaps interpretation of some responses. In addition,

there might be the possibility that some responses from non-MOH stakeholders may have been nuanced in view of the author's status as a member of the MOH.

Aware of these likely influences, efforts were made to minimise bias and attain objectivity in interpretation and analysis through comparisons of responses of stakeholders in different settings such as public meetings and media statements; approaching interviews more as a listener than an advocate and conducting interviews in late 1998/1999 when key stakeholders had already publicly voiced their positions on NHI proposals; and recruiting a research assistant for a short period to undertake a first-level classification of the mass of qualitative data using the check-list of questions as the guide. In addition, in all non-work related encounters and interviews the approach was more that of a listener than an advocate. The fact that all systematic data analysis took place after the researcher had left the employment of the MOH also serve to minimise likely bias and direct influence of work-related loyalties.

The financial modelling methodology utilized frameworks and applications which are well-defined in the literature (Cichon et. al, 1999) and in some software packages such as SimIns (GTZ and WHO, 2004). Assumptions and projections were required at several critical points in the estimates. Some of these were derived from official sources. However, because of some data limitations, some relied on judgments and approximations in relation to costs and income/revenue. Among these were the following:

- costs of health services were derived from existing data in the public and private health sector. No attempt was made to second guess the financial implications of whether or not the health system was appropriately costed or operating efficiently. This meant that the financial implications of issues such as technology mix, staff mix, choice of drugs, patterns of procurement, alternative health services delivery approaches were not specifically addressed or quantified. Nor did the modeling estimates address the delineation of the benefit package in terms of inclusion and exclusion of specific services and the extent to which NHI itself may alter the pattern of supply and demand for health services. In other words cost were taken as is rather than as should be or would be.
- the estimate of costs of NHI options may also reflect some inexactness because broad assumptions were made about the financial implications of single vs. multiple insurers/payers; different provider payment mechanisms and the spill-over costs of stronger regulatory capacity in the MOH;

- on the revenue side, the model did not seek to specify income ceilings nor how to share contributions between workers and employers—these are commonly established in contribution-based plans. Nor did it attempt to specify contribution amounts from formal as against informal and self-employed workers.

These were treated as details to be worked out in further research and fine-tuning of the core results indicators on PAYGR and percentage share of government. However, some attempt was made to take into account, in broad terms, the likely implications of key cost and revenue factors. This was done through the scenario and sensitivity analyses where baseline and alternative magnitudes in factors such as moral hazard, supply of services, administrative costs, compliance levels and copayments were estimated.

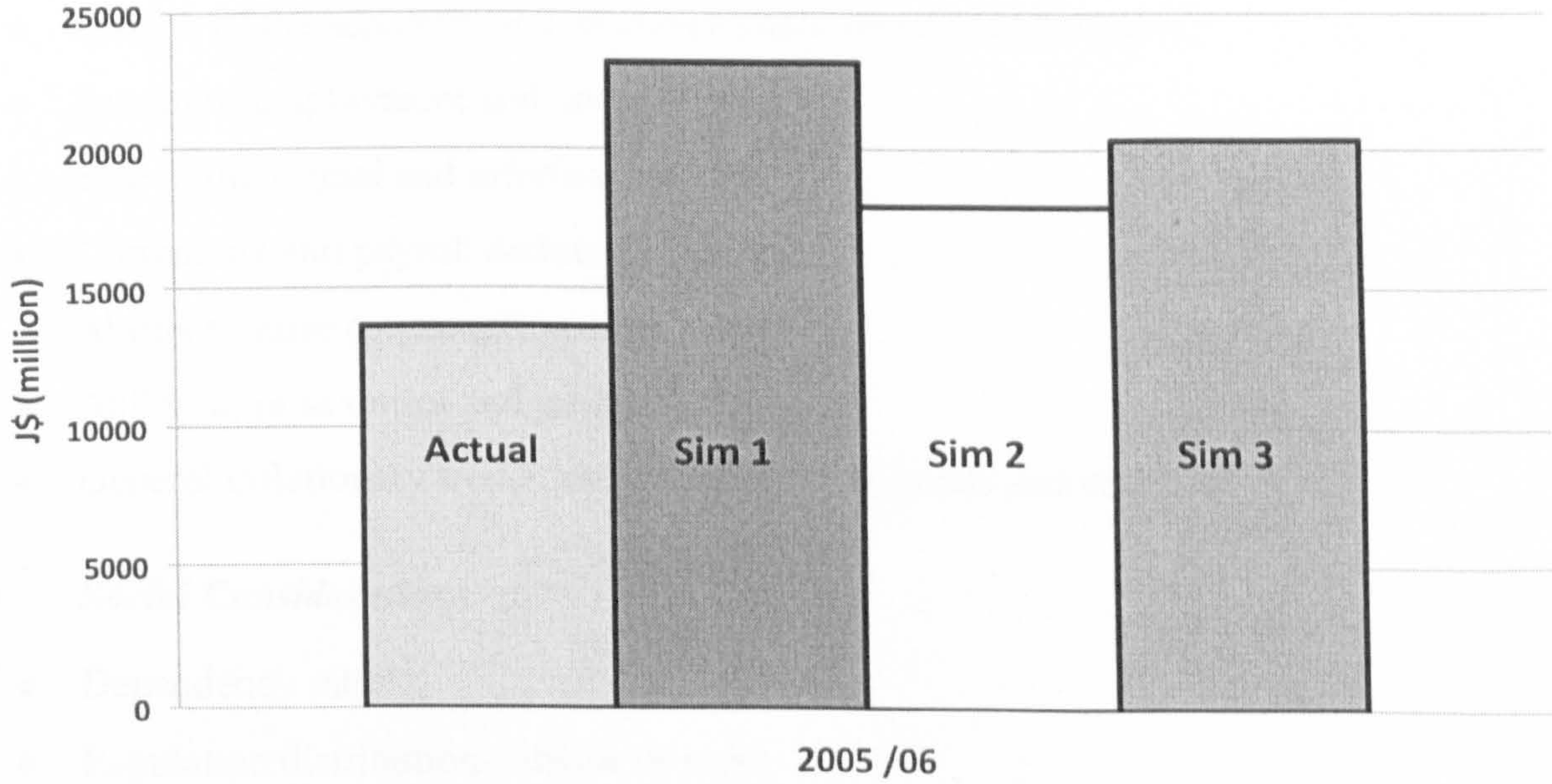
Defined field-work especially in relation to qualitative data collection came to an end in 2001. However, developments in Jamaica have been constantly monitored since then firstly through employment as a member of staff of the MOH until 2005 and latterly through ongoing research and collaboration with health officials and academics on various projects. This level of involvement meant that quantitative data have been updated, new policies and developments in health and health financing have been tracked and close familiarity with the overall socio-economic situation has been maintained. Despite the fizzling out of formal attempts to introduce an NHI in 2001 and the shift of attention to increased user fees and the establishment of the National Health Fund in 2003 (discussed in Chapter 4), health financing constraints have persisted and references have been made from time to time to NHI as a financing mechanism. Some of the key stakeholders have changed (personnel more than positions). However, the critical features of the health system, the factors influencing the choice and implementation of an NHI option and the research methodology used remain relevant.

8.3 Assessing the Overall Feasibility of Implementing NHI In Jamaica

Despite formal announcement, consultations and analyses over the period 1997-2001, NHI in Jamaica was put on hold and basically shelved. This was not because a new solution had been found or the issues on health financing had dissipated. As discussed in Chapter 4, the two major challenges of fluctuating but generally diminished real allocation to the public health sector and continuing inequities in health, health seeking behaviour and access to care were still unresolved:

- On public health expenditure, Appendix 4.6 showed the pattern of actual allocation to the MOH (referred to as Nominal MOH/T) over the period 1980/1 to 2006/7 and crude estimations of financing shortfalls using 3 simulations of desirable resource flows—firstly, if the percentage of the budget allocation to MOH remained constant over time at the (relatively reasonable) level of 6.7% of TGE in 1980/1; secondly, if the MOH received a real per capita increase in budget allocation of 0.5% per annum since 1980/1; and thirdly, if it received a similar increase of 1% per annum. As shown in Appendix 4.6 and in Figures 5.1, 5.2 and 5.3, the data from the simulations suggest that, there were budgetary shortfalls in most years compared to actual allocation/expenditure. For example, as depicted in Figure 8.1, in 2005/6, actual expenditure was J$13.7bn or 4.0% of TGE. Using the simulation variables above, this represented a shortfall in allocation of J$9.5bn or 41% of the desired level in Simulation 1; J$4.3bn or 24% in Simulation 2 and J$6.7bn or 33% in Simulation 3.

Figure 8.1 3 Simulations of Actual vs. desirable MOH Expenditure in 2005/6



Source: Author's estimations using data from Appendix 4.6

- On some key indicators of equity in health, the data in Table 4.6 pointed to persistent differences with those in Quintile 1 (the poor) worse off than in Quintile 5 when comparing health status, health seeking behaviour, access to health insurance and out of pocket spending on health as percentage of non-food (discretionary) expenditure.

It seems that some key factors, singly or in concert, led to a re-thinking and lack of confidence among policymakers in moving ahead with implementing NHI in 2001. The literature points to certain health and non-health factors and circumstances which could affect the policy decision environment and non-implementation of a seemingly sound technical recommendation even when supported by financial analysis showing viability. (Walt, 1994; Normand and Weber, 1994; Ainsworth and Shaw, 1995; Gilson et al., 1999; Carrin and James, 2004; Gottret and Schieber, 2006; Mills, 2007). These may have been largely responsible for shelving of NHI in 2001. These factors include:

i) Current health financing considerations

- Extent of public tax-funded system;
- Extent of private health insurance;
- Extent of social security funding for health;
- Extent of out of pocket payments.

ii) Economic Considerations

- Growth of the economy and of Government revenue and wages;
- Pattern of employment and unemployment;
- Size of the formal and informal sectors;.
- Current tax and payroll deduction burden;.
- Ability to raise consumption taxes
- Ability to raise duties and tariffs
- General inflationary trends and prices of other goods and services.

iii) Social Considerations

- Dependency ratio;
- Population distribution –urban vs rural;
- Extent of poverty;
- Level of confidence in Government institutions;
- Level of stakeholder support—value placed on solidarity vs charity;
- Political will.

iv) Administrative Considerations

- Available management capacity;
- Mechanisms for collecting contributions;
- Legal framework.

v) Health Services Considerations

- Range and quality of health services;
- Choice of provider;
- Access to and availability of services;
- Health reform environment.

Table 8.1 briefly describes the status with respect to each of the above factors in 1997-2001 and indicates, from a policy viewpoint, the degree to which consideration of this status may influence or facilitate a current decision to implement an NHI. (No attempt was made to formally define the boundaries and magnitudes of the descriptors of facilitation. The designation of 'weak', 'questionable' and 'reasonable' were largely based on observations and judgments from the data and from the listening to the views of stakeholders and key informants). The Table shows an almost equal mix of 'reasonable' compared to 'questionable' and 'weak' facilitation. However, if the health related factors are excluded i.e. health financing and health services considerations, then the 'questionable' and 'weak' ratings exceed the 'reasonable' in relation to economic, social and administrative factors. The inference that may be drawn is that, in the period 1997-2001, the confidence of Jamaica's policymakers may have been influenced by this mixed but generally unfavourable policy environment. In their assessment of the cost and benefit of implementation, policy makers may have opted for caution and consequently postponement of a decision on NHI.

Table 8.1 also shows the relative status of these factors in 2006/7. As discussed in Chapters 6 and 7, the financial modelling showed that, theoretically, the NHI options especially the PT may have mitigated to some extent the resource and equity challenges in the health sector. Firstly, government's contribution to health would have reduced from 56% to about 35% of total health expenditure leaving room for more (targeted) health spending by government. Secondly, access to health services in the public and private sectors would be enhanced by pooling and reducing financial barriers to care.

In terms of contemporary or future decision-making on NHI, even with a seemingly viable PT, it appears that several of the factors identified in the Table are, and are projected to be, generally unfavourable. These are likely to feature prominently in NHI debates and would require noticeable improvements and remedial action before NHI may be deemed as implementable.

Table 8.1 Summary of Likely Impact of Factors on Feasibility of NHI in 1997-2001 and in 2006-2007

Factor	Status of Factors Relating to NIII in: 1997-2001	2006-2007	Degree of Facilitation
i) Current health financing system			
a) Extent of tax-funding for health services	• High (~56% of THE) but persistent shortfalls. Opportunity for NHI.	• More than 50% of THE in 2006/7 and shortfalls persist.	Reasonable
b) Private health insurance	• Limited to ~12% of population. Both opportunity for NHI to expand coverage as well as opposition from those with private plans.	• Increased to about 18% in 2006. Both opportunity and opposition as above.	Questionable
c) Social security funded health services	• Limited to paying sickness and maternity benefits. Opportunity for NHI.	• NIS voluntary health plan for pensioners since 2003. Opportunity for NHI.	Reasonable
d) Out of pocket payments	• High: ~ 30% of total health expenditure. So opportunity for more prepayment in NHI.	• Broadly similar levels of out of pocket spending in 2006/7. Opportunity.	Reasonable
ii) Economic Considerations			
a) Pattern of economic growth	• Fluctuating but generally weak since 1970's.	• Positive but low-level growth rates since 2001.	Weak
b) % employed & unemployed	• Double digit unemployment: about 15%	• Slightly lower (~11%) but still double digit unemployment.	Weak
c) % formal and informal sector	• High % of self-employed and informal sector activity.	• Continuing high percentage in 2006/7.	Weak
d) Current tax and payroll deductions	• Relatively high and deemed burdensome: ~31.5% for workers and 43.5% for business firms.	• Similar levels in 2006/7	Weak
e) Ability to raise consumption taxes	• Already at 15% and deemed burdensome. Opportunity for NHI deductions.	• Increased to 17.5% by 2006/7.	Reasonable
f) Ability to raise customs duties and tariffs	• Already in regional e.g. Caribbean Common Market membership and international (e.g., WTO) agreements- little room for manipulation to get more tax funds. Opportunity for NHI deductions.	• Further reduction in scope for manipulation with progressive reductions in duties.	Reasonable
g) Inflationary trends and environment	• Floating currency with general exchange rate volatility upwards (J$50:US1, 1997) affecting general price levels including prices of basic utilities.	• Currency rate movements continue (J$70:US$1 in 2006/7).	Weak
iii) Social Considerations			
a) Dependency ratio	• Relatively low: more working age persons than dependents.	• Low with slow changes to increasing dependency.	Reasonable
b) % urban & rural population	• Almost equally divided but no great geographic barriers.	• Percentage urban slowly exceeding that of rural.	Reasonable

Factor	Status of Factors Relating to NHI in: 1997-2001	2006-2007	Degree of Facilitation
c) % persons below poverty line	• Relatively high at about 20%. Burden for government contributions.	• Decline to about 15% in 2006/7. Still perceived as burden to government.	Weak
d) Confidence in government institutions	• Relatively weak.	• Relatively weak.	Weak
e) Stakeholder support	• Mixed. Also less support for social solidarity.	• Likely to be mixed.	Questionable
f) Political will	• General support for NHI in manifestos by both major parties.	• Some support but more indirect references to NHI as part of alternative financing in 2006/7.	Reasonable
iv) Administrative Considerations			
a) Capacity to manage	• Mixed. Public institutions like NIS seen as weak performers while private insurers seen as slightly better but financially and organizationally unstable.	• For new NHI agency(ies) staff would have to be drawn from same public and private institutions.	Questionable
b) Mechanisms for registration and collection	• Formal mechanisms exist in tax and social security administration - enforcement seen as generally weak especially in relation to self employed and informal sector.	• Persistence of weaknesses in 2006/7.	Questionable
c) Legal framework	• Process for legislation well-defined.	• Same in 2006/7.	Reasonable
v) Health Services Considerations			
a) Range and quality of services	• Mix of primary, secondary and tertiary services available though issues of consistency and quality.	• More services available in 2006/7 but persistence of quality concerns.	Reasonable
b) Public and private providers	• Mix of providers at primary and outpatient levels with public dominant in hospital-based services.	• Similar mix in 2006/7.	Reasonable
c) Access and availability	• Issues with availability of and equitable access to services. Opportunity for NHI to improve access but private providers worried about payments.	• Similar issues in 2006/7.	Questionable
d) Health reform environment	• General support for changes with major HRP (1997-2005).	• Reforms seen as unfinished so scope for more changes.	Reasonable

Source: Author's estimations

The influence of stakeholders on the decision to shelve NHI in 2001 as well as in any attempt to renew its consideration cannot also be discounted –this is discussed below..

8.4 Strategies to Secure or Strengthen Support of Key Stakeholders

Stakeholders play a crucial role in reinforcing or reducing the degree of confidence of the policymaker and ultimately in the decision on NHI (Gilson et al., 1999; WHO-GTZ, 2004; Atim et al.; 2006, Carrin et al, 2007). As discussed in Chapter 5, stakeholder views on the GPP varied. This variability was also manifest when they were asked to state the features they would like to see in an NHI. The position of stakeholders on NHI may have exerted a strong influence on the level of confidence of the government in moving forward with an NHI. Since several of the underlying factors for or against an NHI have remained, it is expected that their positions will continue to be variable and that the critical mass of support may not be forthcoming.

To a large extent, stakeholder positions represented their perceptions in relation to four key aspects of NHI—the contribution requirements given the existing tax environment; the role of social solidarity and cross-subsidies; technical aspects such as the benefit package and regulatory role of MOH and confidence in government institutions.

i) Contribution Requirements: Table 8.2 shows the main taxes and magnitudes in Jamaica in 2006/7. (In 1997-2001, the direct taxes and magnitudes were similar but the threshold for income tax and ceiling for NIS deduction were lower. Consumption tax was also lower at 15%). With deductions already at about 31.5% for workers and 43.5% for businesses, an NHI would decrease take-home earnings by a further 5.8% (in the GPP) to 9.6% (in the PT). The likely implications for individuals and businesses have been discussed in Chapter 7. In addition, the level of consumption tax is seen by most stakeholders as burdensome.

The totality of taxes and deductions (direct such as income and corporate; NIS, NHT and Education deductions and indirect through the General Consumption Tax) and the uncertainty on likely unintended consequences of an NHI such as employment losses and higher inflation may have influenced the confidence of Jamaican policymakers in shelving NHI in the 1997-2001 period. From a policymaker's point of view, this is part of the 'cost-benefit' calculation in making decisions, and technically feasible models do not always replace or override 'gut' feelings on the likely consequences of decisions (Hogwood and Gunn, 1984; Grindle and Thomas, 1991; Ham and Hill, 1993; Reich, 1994; Gilson et al., 1999).

Table 8.2 Main Taxes and Statutory Dedcuctions Facing Workers and Businesses, 2006/2007

Tax-Deduction	Workers	Businesses	Notes
Income tax	0% or 25%	--	Threshold earnings –J$ 193,440 p.a.
Corporate tax	--	33%	
National Insurance (shared)	2.5%	2.5%	Earnings Ceiling—J$250,000 p.a.
National Housing Trust (shared)	2%	3%	No ceiling
Education Tax (shared)	2%	3%	No ceiling
Human Employment and Resource Training (HEART) Trust	--	2%	No ceiling
TOTAL	**31.5%**	**43.5%**	
General Consumption Tax (GCT)	17.5%		Some goods and services are exempt
Likely NHI deduction: GPP, SAP or PT	GPP: 5.8% SAP: 8.8% PT: 9.6%		Sharing arrangements to be determined

Source: Compiled by Author's from data in PIOJ's Economic and Social Survey and in the Financial Model

ii) Role of Social Solidarity: The literature posits this as a major requirement for and consequence of NHI (Blendon and Donelan, 1990; WHO, 2000; Cheng, 2003). However, as evidence from ICs and DCs indicates, this is difficult to attain, may have weakened over time and cannot be assumed (Normand and Weber, 1994; Gottret and van den Heever, 1995; Schieber, 2006; Mills, 2007). In Jamaica, there was sufficient evidence from stakeholders' comments that cross-subsidy and paying for those who 'neglect their health' or 'live sinfully' would be problematic.

iii) Technical Aspects of NHI: Differing views on the technical aspects of NHI centred on the choice of the benefit package, the inclusion or exclusion of catastrophic health coverage, the role of a single insurer vs. multiple insurers and the extent of regulatory control by the MOH. These issues will continue to be disputed because there are no clear-cut right or wrong positions on them. In some cases, phasing in benefit packages and coverage may work. On the other hand, technical differences sometimes require direct resolution by policymakers. In the case of Jamaica, a critical point of contention in the GPP was the exclusion of ambulatory services from the benefit package. Some have suggested that had the government relented and included it in the package, the intensity of opposition would have been minimized. Others felt that opening the door to such a change would signal weakness in design encouraging others to push harder for changes and in the process would destroy core features of the original plan. The net effect

is that differences like these, if not managed, can influence the confidence and decision of policymakers.

iv) Confidence in government institutions: National and personal experiences with government-managed institutions played a key role in the decision of some stakeholders to oppose NHI. This is not unique to Jamaica as evidence from other DCs point to similar challenges (Gilson et al., 1999; Gilson, 2000; Atim et al., 2006; Gottret and Schieber, 2006; Carrin et al., 2007). Government institutions such as the NIS, NHT and RHAs have generally not won the confidence of the public in terms of the efficiency of their operations, quality of services and overall fiscal management. Scepticism is expected over any proposal or decision that a new government managed NHI institution will be responsible for NHI.

The decision to implement the PT or any other version of NHI in Jamaica will have to take into account the views of stakeholders. Gilson et al. (1999) proposed a number of strategies for working with stakeholders to secure and strengthen support or reduce opposition. These include:

- create common ground;
- create common vision;
- define decision making process;
- mobilise key supporting actors;
- meet political parties;
- initiate strategic communications with press;
- initiate pilots;
- manage bureaucracy;
- strengthen alliances with international organizations;
- involve influential friends in planning;
- create strategic alliances;
- use back-door channels;
- establish independent commission to block opposition/create support;
- establish parallel processes during commission;
- use technical information to offset opposition;
- divide to rule;
- mobilise powerful third party;
- create tailored messages for public.

From this broad listing, specific strategies for specific groups of stakeholders will have to be worked out for Jamaica (deemed as 'optimal fit' by Brugha and Varvasovskzy, 2000) to mobilize support, engender confidence and generate consensus for an NHI programme.

8.5 Comparison and Consistency with International Experience

Jamaica's experience with NHI (the factors leading to its choice, the process and actual design) bears close resemblance to that in several other DCs and ICs. On the other hand, there are also significant differences which can be detected. Five key areas will be briefly examined: the choice of an NHI response to health financing challenges; issues in designing NHI; the role of stakeholders; the macroeconomic environment and confidence of policymakers and the public.

i) Response to health financing challenges: Countries have reacted differently when faced with similar (though not necessarily the same intensity) of health financing shortfalls and challenges. Some have opted for NHI and community health insurance plans while others have preferred the route of expanding tax-based funding. The issues of fiscal space and ease of administration have played key roles in these decisions to choose contribution- vs. tax-based options.

In Jamaica, the combination of fiscal space constraints (in terms of relatively high levels of taxes and limited scope for upward adjustment – see Section 8.3) and the opportunity provided by the HRP prompted the policy decision for an NHI. However, implementation did not materialize as, faced with a mix of socio-economic and administrative considerations, the confidence of policymakers seemed to have waned. Health financing constraints persisted but 'muddling through' (Hogwood and Gunn, 1984; Ham and Hill, 1993) with a mix of tax funds, user fees and other sources of financing seemed to have replaced any new major initiative.

ii) Design Issues: The broad features of NHI proposed for Jamaica are similar as in most other countries with NHI systems. Three key differences which may be noted among countries are whether administration is by a single insurer or multiple insurers; the comprehensiveness of the benefit package and the phasing in of coverage to the entire population. In relation to the latter it should be noted that most ICs took several decades to achieve universal coverage in their

contribution-based systems while some DCs like South Korea did so within three decades (Carrin and James, 2004; Gottret and Schieber, 2006).

Jamaica's approach for immediate universal coverage in its NHI was based on the existence of its already well-established though under-resourced public health system which, theoretically, offered a spectrum of primary, secondary and tertiary services to all (the official policy was and is 'no one seeking care should be turned away'). This meant that it would be socially difficult to offer any less coverage of benefits with a change to a contribution-based plan like NHI that, procedurally, would restrict access to paid-up members only. The scope for phasing in coverage of services was proposed in the GPP. However, this was generally opposed by stakeholders who felt that exclusion of outpatient consultations was destructive of the principles and benefits of primary care.

iii) Role of stakeholders: In all countries, stakeholders span a spectrum in relation to NHI or to any other health financing mechanism whether tax-based or community or private insurance. Issues of technical design as well as perceptions of opportunity or threat characterize their positions. As Gilson et al. (1999) pointed out, it is essential to have multiple targeted strategies to secure and maintain support and to mitigate opposition. However, in the final analysis, the role of the policymaker maker in consensus-building is critical in securing the critical mass of support for moving forward.

In Jamaica, stakeholder support varied widely. On some core NHI proposals, key stakeholders with major influence such as the Medical Association, employers and worker groups and even the Ministry of Finance and some key officers in the MOH strongly differed or expressed serious doubts. These served to undermine confidence of supportive policymakers, who, despite recognizing the technical merits and long-term viability of NHI, were not prepared to incur some of the likely short-term costs.

iv) Macroeconomic environment: In most countries, this plays a crucial role in the choice and timing of implementation of NHI. However, there are differences of opinion as to whether a prospering economy is essential for an NHI. Saltman et. al (2004) indicate that Germany commenced its contribution-based system at a time when it was relatively poor. Others rejected this approach when they were faced with economic difficulties eg. UK in 1946 and Italy in 1979. This is an issue

which is still unresolved since there are several facets of the macroeconomy which may actually be conducive to an NHI even in times of slow growth.

In Jamaica, persistent macroeconomic difficulties since the mid-1970's narrowed the fiscal space for policymakers in terms of more tax-funding for health. However, while these difficulties made NHI appear attractive especially as it would require payments by the fairly large informal and self-employed population, the administrative challenges in registration and collection faced by other public institutions and most likely by the NHI insurer (s) (as well as having to make decisions on denying access to care by non-members) served as an effective counter-balance to this optimism.

v) Confidence of policymakers and the public: There are several aspects and factors which determine confidence in a health financing system and in the likelihood that it will work and will produce the intended and not unintended consequences. These factors are readily identified and perhaps could be weighted by researchers in decision matrices. However, the reality in each country and at particular points in time mean that these factors are perceived, understood and interpreted differently by policymakers and the public. This is an area for further research and analysis in Jamaica and in other countries which have or are contemplating NHI programmes.

CHAPTER 9: CONCLUSIONS AND FURTHER RESEARCH

9.1 Summary of Scope, Objectives and Methodology of Study

Largely driven by the need to address pent-up frustrations and deficiencies in its tax-funded public health system and motivated by the opportunity presented by the imperatives of the policy package in its externally-funded Health Reform Program, Jamaica followed the path of several DCs in initiating, designing and taking formal steps towards the implementation of an NHI plan in the late 1990's. However, sustained action in the research and development process was put on hold by 2000/2001.

In light of this policy collapse or more appropriately policy freeze, the overall goal of this study was to examine and evaluate in an *ex-ante* approach feasible NHI options for Jamaica by drawing government's NHI proposals (1997), the international experience and lessons with NHI approaches and the perspectives of key local stakeholders on an appropriate NHI design. In particular, the study sought to:

- identify the contextual factors (socio-political, economic, health, health financing and external) that led to the policy decision for an NHI plan;
- define the key elements of potentially feasible options by drawing on the existing government's proposal (1997); recommendations of key stakeholders on their version of an NHI plan; and on the 'best practice' that seems to be emerging from the international experience;
- quantify the financial implications of each option in terms of cost of the package and administration and the contributions required from the population and the State to cover these costs;
- evaluate the likely impact of each option in relation to key criteria such as coverage, equity, efficiency, net revenue and contribution requirements;
- examine the likely implications for stakeholders and the health system of implementing the preferred NHI option emerging from the evaluation.

As outlined in the study's conceptual framework, a mix of methodologies were utilised to generate the data and findings. These included:

a) theoretical, contextual and comparative country analyses drawing on literature reviews, official and unpublished documents on Jamaica and the international experience with health financing particularly social health insurance;

b) qualitative data gathering methods including direct explorations of key issues with key informants, interviews with key stakeholders using a semi-structured, pre-designed checklist and participant observation;
c) quantitative data collection drawing on secondary data as well as standard estimation techniques;
d) analyses of qualitative data using stakeholder and political mapping tools as well as content analysis;
e) financial modeling of key variables in NHI programmes and mathematical mapping of equations to generate estimates of cost and financing of NHI options;.
f) appraisal of NHI options using selected criteria such as coverage, efficiency, equity, net revenue generation, the share of workers (using the PAYGR) and government in meeting costs.

9.2 Key Findings and Extent to which Objectives were Achieved

The main findings of the study include the following:

a) Wide variation internationally in health financing choices and motivations for policy changes: International attention to health financing issues has grown significantly in the last two decades with major policy reforms and operational changes in varying stages of implementation in ICs and DCs. Formal or implicit health reform programmes provided the launching pad for re-thinking health financing in most countries. For ICs, with NHI or tax-funded systems, the concerns have largely been centred on cost control, efficiency in risk pooling, administration and purchasing as well as fiscal sustainability. For DCs (middle income as well as low income countries), whether with NHI or tax-funded systems, the agenda of issues related to universal coverage, additional resources for health, equity in cost sharing and efficiency in administration and purchasing health services. The international debate continues to waver on how best to attain key health goals such as universal coverage, financial protection and value for money through NHI, tax-funding or strategic combinations of these alongside private and community health plans.

b) Wide variation in NHI approaches and performance: Among ICs and DCs with NHI-type financing systems, there is wide variation in the approaches and performance. The time-frame for full population coverage, the emphasis on single payer vs multiple payers, the coverage of services in the benefit packages,

provider payment systems and the role of copayments reflect some of the major differences in design even among countries with fairly similar structural features. These factors also play key roles in determining the overall performance of countries with NHI-type financing systems when criteria such as universality, financial protection, equity in cost sharing and efficiency are applied.

c) Mix of socio-economic, political and health factors influence policy choice of NHI: Official considerations of NHI-type financing in Jamaica span several decades with 'stop-go-stop' policy decisions by different political parties in power. The constant concerns have been underfunding of the tax-financed health system given persistent budgetary difficulties; inequity in access given deficiencies in the availability and quality of public health services; and the high cost of available services in the growing private sector. A formal, externally-funded Health Reform Program together with an influential minister of health provided the impetus for the first comprehensive attempt to establish an NHI system in the late 1990's.

d) Differences between government and key stakeholders on an appropriate NHI design: Government's proposals for NHI, as reflected in their Green Paper (1997) received mixed responses from key stakeholders including senior officers within the Ministry of Health. Not unexpectedly, the most serious opposition came from the Medical Association, private insurance companies and employer groups. Even though there was general support for an NHI system, differences centred on particular aspects of the Green Paper proposals such as the benefit package, the establishment of a statutory body (public health insurance company) to manage the plan, and the regulatory framework. For evaluation of optional designs, these differences were merged and simplified into a broadly measurable SAP to enable comparisons with the government's GPP and a PT which was theoretically defined based on 'best practice' emerging from the international experience with NHI systems.

e) Conceptually, the PT is the most feasible NHI option for Jamaica when applying evaluation criteria ex ante: In applying the evaluation criteria (i.e. universality of coverage, extent of risk-pooling, depth of benefit package, net revenue, equity in cost sharing, administrative efficiency and contribution sharing) the prototype emerged as the most feasible NHI option for Jamaica. This was followed by the GPP and the SAP. Given that the focus of the study is on the design of NHI options, the feasibility of the prototype does not mean readiness for

implementation or that other health financing strategies do not have a role in overall financing of health services in Jamaica. Neither does it mean that an NHI is the best option for Jamaica in financing health services since rigorous examination of alternatives was not part of the analysis.

f) Major role for government despite statutory NHI contributions: Based on the design parameters, it is expected that government would still have to play a key role in financing health services no matter which NHI option is considered for implementation. This is because it is expected that, for universality and equity of access, government will make contributions on behalf of the indigent population (assumed to be about 20% in all options). In addition, it is expected that government would share in contributions by its workers, continue to fund certain essential public health services (e.g. sanitation, surveillance, health education and promotion, regulation and standards) as well as meet the cost of capital works in the public health sector.

g) NHI may be burdensome for firms and workers given other taxes: Given the fiscal environment where approximately 31% of earnings of individuals and a higher percentage of earnings of business firms are already being deducted through income tax and other statutory deductions, a new NHI deduction of 5.8%-9.6% (depending on the NHI option) will represent a real burden for all contributors. This burden may be heavier on formal sector entities in view of the long history of tax non-compliance by the self-employed population and the large informal sector in Jamaica.

h) Supportive developments and institutional changes: The practical feasibility of an NHI option will depend on several supportive developments and institutional arrangements for successful implementation in Jamaica. These include continued macroeconomic progress, strengthened systems for identification and registration of the poor, design of appropriate IT systems, rigorous measures to bring more self-employed and informal sector workers into the contribution net and implementation of facilitating legislation. Additionally, given the large self-employed/informal sector groups, serious consideration should be given to a different approach to revenue generation for an NHI system through more indirect than direct deductions thus reducing the contribution burden by the formal sector wage earning population.

In general, the objectives of the study (identifying NHI policy context; defining NHI options; quantifying financial implications; determining a preferred option and examining implementability) have been achieved. The literature review, context analysis, review of documents in and on Jamaica and field work generally proceeded according to plan.

Except for some deficiencies in the availability of data on the private health sector (which were dealt with through reliance on proxy estimates from national survey data), the range of required quantitative information on macroeconomic and social context, health services utilisation and health financing in Jamaica was secured largely from local official publications and supporting data sources in international organisations. On the qualitative aspects of the data collection, 'triangulation' through elite interviews, discussions with key informants and participant observation yielded generally acceptable information. In this respect, the technique of participant observation may be said to have been quite helpful in getting access to stakeholders and key informants as well as in tracking the 'life' of and responses to NHI as a policy initiative.

The data generated from literature review, context analysis and quantitative and qualitative methodologies facilitated subsequent analysis in terms of definition of NHI options, evaluation of feasibility and exploration of implementability.

9.3 Conclusions and Usefulness of Results

In reviewing the international experience, the historical and contemporary approach to development of NHI in Jamaica and the outcome of the evaluation of NHI options, there are certain main conclusions and lessons which can be highlighted. These are as follows:

a) Influence of Macro-economic Context: it is more difficult to implement a major public policy like NHI during periods of severe macroeconomic difficulties. It appears as a most desirable option to cash-strapped governments during these periods but it is precisely these conditions which make design, popular acceptability and implementability more difficult and less likely to get off the ground given the requirements for new deductions.

b) NHI may be technically feasible but the political dynamics of change and stakeholder support may derail implementation: There is a major gap between the design, acceptability and implementation of what may be viewed as a technically

efficacious public policy like NHI. As attempts at implementing NHI in other DCs such as sub-Saharan Africa including South Africa (Gilson et al., 1999; McIntyre, Gilson and Mutyambizi, 2005; Atim et al., 2006), central and eastern Europe (Carrin and James, 2004; Gottret and Schieber, 2006) and Latin America (Homedes and Ugalde, 2005) indicate, there are complex social, political, ideological, economic and institutional challenges to overcome to get an NHI system accepted and operating in an efficient and sustainable manner. In many of these countries, as in Jamaica, confidence in the ability/capacity of the government or a new statutory body to efficiently manage NHI cannot be taken for granted. Such confidence is built up slowly but lost easily. This is a factor most readily espoused by the middle and upper income groups as well as formal sector unionised workers who are more likely to have some form of private health insurance coverage and who view private insurers and the free choice of insurer as more efficient than public sector agencies.

c) NHI and other health system goals: NHI cannot be conceived purely as a health financing mechanism without reference to the overall goals and vision of the sector. There must be a clear understanding of what are the health generating models; the health delivery models and the health impact models so that the intended consequences of NHI can facilitate rather than frustrate the achievement of health goals such as equity, efficiency, quality, choice, cost control and incentives for responsiveness.

d) NHI and other health financing mechanisms: The health sector is too large and health interventions too numerous to be financed by NHI alone. It requires careful specification of NHI's objectives and other financing mechanisms (including tax funds, private insurance and out of pocket payments) which collectively can produce much more health benefits than if each was conceived in isolation.

e) Role of Consultation: Consultation is essential in the design and development of NHI since there are several key stakeholder groups whose support or opposition may be critical in securing acceptability. However, consultation has to be timely, purposeful, time-bound and cost effective or else discussions could be controlled or captured by the powerful. In addition, those who oppose are usually more vocal than those who support a plan so that leadership, vision and technical competence are crucial to ensure good intentions in a policy are not derailed to benefit the few.

f) Role of Cultural factors: In several DC's where established tax-funded health systems predominate, the shift to NHI financing raises several critical issues of social norms, political behaviour and 'culture'. These need to be systematically addressed to achieve desired results. Some of the cultural factors include:

- Free care: to what extent 'free care' and promises of 'Government will provide' by politicians have become so entrenched in the national psyche that a mandatory contributory plan is seen as inherently unworkable and apt to be abused by free riders even though many persons are willing to pay for private care and health insurance plans;
- Prepaid vs. out of pocket: to what extent is there a culture of paying for services only when sick rather than when one is healthy in a prepaid plan;
- Solidarity vs. individualism: to what extent is solidarity or the willingness to pay and pool resources to subsidise those who are or say they are unable to pay a commonly shared trait in the contemporary period as compared to a few decades ago;
- Private health providers: to what extent do private medical traditions of fee for service and autonomy in health encounters as well as the growth of private health insurance limit the development of financing mechanisms such as NHI, which for efficiency, may insist on capitation plans or cost control and utilisation review measures;
- Public health providers: to what extent are public health providers, governed by traditional public sector regulations and backed by strong unions, prepared to compete openly for funds with the private sector if an NHI agency takes on the role of 'active purchaser' by seeking the best value for money on behalf of contributors and patients so the 'money flows where the patient goes'. As the experience of the NHF in Jamaica indicates, more members/patients may seek care in private than public facilities so that the additional funds may end up in the private sector.

9.4 Areas for Further Research

In terms of further research, there are 3 major aspects emerging from the study.

a) Theoretical Issues. Despite much review and analysis, there is still ongoing debate and division in both IC's and DC's on the following areas:

- how best to establish a universal coverage NHI plan largely contributions-based in a previously dominant tax-financed health system so that there is adequate coverage of members and health services i.e. essential public health functions, personal and curative services, training and capital development;
- how to balance and evaluate the competing efficiency claims of single payer administrative arrangements for NHI versus multiple decentralised payers;
- what should be the mix of services in the benefit package and how to manage and 'ration' access to tertiary care needed by all socio-economic groups given resource constraints, the increased demand to do more once the technology is available and patient expectations.

b) Policy Implications. There are four main areas which require further attention.
   - whether NHI's coverage of the population and of health services should be approached in phases or as part of a 'big bang' policy initiative and the likely implications of some persons denied access to care under NHI because of not making contributions;
   - what is the extent of the fiscal space available to the government in implementing an NHI plan which may require more inflexibility in resource allocations and some fiscal guarantees for operations;
   - whether indirect taxes should play a more significant role than contributions as revenue sources for NHI especially in countries where there are large groups of self employed and informal sector workers and the income tax collection system is relatively deficient;
   - whether inefficient public health facilities should be allowed to close down or scale down if they lose out in the competition for patients in an NHI system where 'money follows the patient'.

c) Operational Implications. The matters needing further research are as follows:
   - further refinement of the benefit packages to specify benefit catalogues;
   - further development of the provider payment systems and contracting proposals to ensure value for money, cost control, limit fraud and abuse and coordinate benefits and payments with private insurers;
   - strengthening mechanisms and processes for systematic assessment and identification of the poor and other groups needing subsidies, improving collections and compliance and securing stakeholder support.

POSTSCRIPT

At the time of writing (December 2008), Jamaica had not taken a formal decision to renew efforts towards implementing an NHI plan. The largely externally-funded Health Reform Program came to an end in 2005 and the push towards NHI seems to have dissipated. Even before 2005, government's enthusiasm for and confidence in an NHI had waned due to a combination of continuing macroeconomic difficulties, uncertain support from key stakeholders and institutional weaknesses. On financing matters, attention focused more on enhancing collections from user fee, increasing contributions from donor groups and on the establishment and operations of the statutory National Health Fund (NHF).

The NHF commenced operations in 2003 as a supplementary financing initiative with the objectives of assisting patients with selected chronic diseases to meet the cost of their prescription drugs in public and private pharmacies and providing additional extra-budgetary capital funds to the public health sector. The first objective (chronic disease prescription drug benefit) represents an expansion to all age-groups of the 1996 Drugs for the Elderly Program while the second (capital funds) supplements planned and spontaneous grants by donors, local and foreign, in off-budget funding of public health sector capital developments. The NHF is financed through a mix of the following: a levy on sales of tobacco and tobacco products; a 1% transfer of social security (national insurance) deductions and an annual allocation from the Consolidated Fund (Lalta and Barrett, 2004; NHF Annual Reports 2005-2007).

After being in power for 18 years, general elections in mid-2007 led to a change in the political party controlling the reins of Government. In mid-2008, in keeping with its election promise, the government revoked the user fee policy and public facilities stopped collections. No new sources of financing have been implemented. As macroeconomic constraints persist and the challenges of financing of health services by the State and individuals grow, there seems to be some continued but low intensity interest in implementing some version of an NHI. However, no new proposals have been formally presented to the public either by current or opposition policymakers.

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Appendix 2.1 List of Health Services Typically Covered in, and Excluded from Full Package Insurance Plans

I. Professional Medical Services and Supplies

1. Physician office visits by referral from other specialist or from the primary health care

2. Provision of, or Primary Care Physician referral for, Emergency care on a 24-hour per day, 7-day per week basis.

3. Diagnostic/Therapeutic:
   a) Diagnostic and treatment services including, but not limited to, consultation and treatment by Specialist Physicians, routine eye examinations limited to one per Member every 12 months, surgical procedures, laboratory, x-ray services, injections, application of casts and dressings, radiotherapy and administration of anesthesia.
   b) Prescribed x-ray and laboratory tests, services and materials, e.g., diagnostic x-rays, mammograms, x-ray therapy, chemotherapy, fluoroscopy, electrocardiograms, electroencephalograms, and therapeutic radiology services.

4. Other Professional Services:
   a) Voluntary sterilization and Contraceptive methods are covered Contraceptive Services are limited to the following: Condom, IUD, diaphragms.
   b) Vision and hearing screening is covered with a referral from Primary Care Physician.

5. Maternal, Newborns and Infertility:
   a) Prenatal and postpartum care
   b) Care of a newborn child is part of the primary health care level, including home visits.

6. Reconstructive Surgery:
   a) A malignant or non-malignant neoplasm
   b) Repair of anatomical impairment to improve or correct a physiological functional disability if a congenital anatomical functional impairment.
   c) Breast reconstruction following a covered mastectomy
   d) Plastic surgery following an accidental injury within 2 years of the accident

7. Prosthetic Devices: Prosthetic Devices as determined to be Medically Necessary, and when ordered or approved by a Health Plan Physician and such devices meet the criteria for coverage under the rules of eligibility.

8. Health Education

II. Hospital Services

1. Medical/Surgical: The following acute inpatient services are provided at hospitals:
   a) Room and board. Private accommodations and special diets will be covered if medically necessary as determined by Plan
   b) Diagnostic and interventional radiology services, clinical laboratory and other diagnostic tests, anesthesia, oxygen services, radiation and respiratory therapy, encephalography, cardiography
   c) Approved drugs, medications and biologicals
   d) Use of operating room, intensive and coronary care units, recovery room and special treatment rooms. Use of outpatient hospital surgical treatment rooms or outpatient surgical facilities
   e) Physical and respiratory therapies when ordered by physician.
   f) Administration of blood and blood products
   g) Pre-and post-hospital planning and referral to community and social welfare resources

2. Physical Rehabilitation:
   a) Inpatient - Short-term Inpatient rehabilitation services due to injury, trauma or surgery will be provided when prescribed.
   b) Outpatient - Physical, on an outpatient basis will be covered when prescribed.

3. Kidney Disease and Dialysis: All Medically Necessary services for dialysis for renal disease and for kidney transplants, regarding end-stage renal disease including equipment, training, and medical supplies required for home dialysis, and directly related reasonable medical.

4. Mental Health/Chemical Dependency: Inpatient services at a Participating Hospital on order of a Health Plan Physician and approved by Plan for direct care and treatment of the acute phase of a mental condition is covered.

5. Emergency and Urgent Care Services:

a) Emergency Services are those services that are needed to evaluate or stabilize an Emergency Medical Condition. Examples of an Emergency Medical Condition include, but are not limited to, symptoms of heart attack, stroke, poisoning, labor, loss of consciousness or respiration, haemorrhaging, and convulsions. During retrospective claim review, the determination as to whether or not an Emergency Medical Condition existed will rest with the package.

b) Transportation Services. In cases of an Emergency Medical Condition, or when authorized by the Primary Care Physician and Plan, transportation services to the nearest medically appropriate facility are covered. Certified air ambulance will be covered if Medically Necessary.

III. Other Facility Services

1. Some Skilled Nursing Facility Services and Home Health Services.

IV. Pharmaceuticals and Pharmacy Services

V. Exclusions

1. Cosmetic or plastic procedures including surgery except as Medically Necessary.
2. Heart, lung, heart/lung, liver, pancreas, pancreas, bone marrow and bowel transplants.
3. Weight loss treatment including but not limited to gastric reservoir reduction surgery, gastric stapling, by-pass or diversion and any other weight reduction programs. Dietary or nutritional supplements for gaining or maintaining weight are excluded, except for charges for non-milk or non-soy formula required to treat diagnosed diseases and disorders of amino acid or organic acid metabolism, protein sensitivity resulting severe chronic diarrhoea, and severe mal-absorption syndrome resulting in malnutrition, provided the formula is prescribed by a Participating Physician, and the Physician furnishes supporting documentation to Health Plan. The benefits will be limited to those conditions where the formula is the primary source of nutrition as certified by the treating physician by diagnosis.
4. Custodial or domiciliary care; personal comfort items such as television, telephone, private rooms (except as Medically Necessary) in a hospital or skilled nursing facility; housekeeping services and meal services as a part of Home Health Care.
5. Experimental medical, surgical, or other health procedures including experimental drugs.

6. Trimming of corns, calluses and nails except for diabetic conditions approved in advance.
7. In vitro fertilization (IVF), embryo transplant services (GIFT, ZIFT), reversal of voluntary sterilization, and outpatient self-administered infertility prescription drugs. Infertility injections or medications normally self-administered will not be covered.
8. Abortions and any related procedures, unless Medically Necessary.
9. Transsexual surgery and related services.
10. Speech therapy.
11. Experimental organ transplants.
12. Private duty nursing.
13. Contact and corrective lenses and eyeglasses.
14. Growth hormones or steroids used for growth and development.
15. Cranial electrotherapy units.
16. Counselling for marital or relationship conflicts, employment counselling and vocational rehabilitation counselling services.
17. Sclerotherapy for spider angiomas.
18. Breast augmentation and/or reduction surgery.
19. Hearing aids.
20. Penile implants and erectile devices.
21. Services rendered primarily for the convenience of a Member in the absence of a specific clinical requirement.
22. Charges for completion of forms and reports other than for the patient's medical record.
23. Surrogate and/or gestational pregnancy and any related procedures.
24. Alternative medicine/therapy including but not limited to: non-prescription drugs or medicines, vitamins, nutrients, food supplements, biofeedback training, neuro-feedback training, hypnosis, acupuncture, acupressure, massage therapy, aromatherapy, chelation therapy, rolfing and related diagnostic tests.
25. Laser treatment including Candela, V-beam and photodynamic therapy for rosacea, port wine stains and other skin disorders.
26. Extra Corporeal Shock Wave Therapy (ESWT) for conditions of the feet elbows and shoulders.
27. Removal of skin tags.

Source: Data from various private health insurers plans.

Appendix 4.1a Jamaica: Key Demographic Indicators, 2006

Indicators	Magnitude
1. Area (sq. km.)	11,000
2. Population (millions)	2.67
3. Density of population (persons per sq. km)	243
4. Population growth rate	0.5%
5. Crude birth rate (per 1000)	17.0
6. Crude death rate (per 1000)	5.7
7. Total fertility rate (children per female of child-bearing age)	2.5
8. Contraceptive prevalence rate (%)	66
9. Sex Distribution (% males to females)	49.3:50.7
10. Rural-Urban Distribution (%)	49:51
11. Age Distribution (%)	
a) 0—14 years	29
b) 15—64 years	63
c) 65+ years	8
12. Age Dependency ratio [(11a+11c)/11b]	58

Source: Compiled from data in PIOJ Economic and Social Survey of Jamaica and MOH Annual Reports.

Appendix 4.1b Jamaica: Selected Health Indicators, 2006

Indicators	Magnitude
1. Infant mortality rate (per 1000)	19.2
2. Child (under 5) mortality rate (per 1000)	16.2
3. Immunization rate (% children 0—1 year)	87
4. Maternal mortality rate (per 100,000)	106.2
5. Population with access to safe water (%)	86
6. Population with access to sanitary facilities (%)	95
7. Practising physicians (per 1000)	0.9
8. Nursing persons (per 1000)	1.7
9. Hospital beds (per 1000)	Acute: 1.44 All: 2.14
10. Healthy life expectancy-HALES (years)	65.1

Source: Compiled from data in PIOJ Economic and Social Survey and WHO (2004).

Appendix 4.2 Survey Data: Self-Assessed Health Status, Health-seeking Behaviour and Use of Health Services, 1992-2006

Category	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2006/a	Period Average
1. % Reporting Illness/Injury in last 4 weeks	10.6	12.0	12.9	9.8	10.7	9.7	8.8	10.1	14.2	13.4	12.6	12.2	11.4
2. Mean Number of Days of Illness/Injury	10.8	10.4	10.4	10.7	10.0	9.9	11.0	11.0	9.0	10.0	10.0	9.8	10.3
3. % of (1) Seeking Care	50.9	51.8	51.5	58.9	54.9	59.6	60.8	68.4	60.7	63.5	64.0	70.0	59.6
4. Source of Medical Care													
a) Public	28.5	30.9	28.8	27.2	31.8	32.1	37.9	37.9	40.8	38.7	51.8	41.3	35.6
b) Private	63.4	63.8	66.7	66.4	63.6	58.8	57.3	57.1	53.6	54.8	42.7	52.8	58.4
c) Both	8.1	5.3	4.5	6.3	4.6	9.1	4.8	5.0	5.6	6.5	5.5	5.9	5.9
5. Source of Medication													
a) Public	11.7	15.9	21.4	16.4	19.1	22.0	19.7	18.5	20.8	20.0	26.5	15.9	19.0
b) Private	84.7	79.9	75.6	81.9	78.0	74.3	76.6	77.0	73.3	76.9	68.0	76.4	76.9
c) Both	3.6	4.2	3.0	1.7	2.9	3.7	3.7	4.5	5.9	3.1	5.5	7.7	4.1
6. % Hospitalised of those seeking care													
a) Public	6.0	6.9	4.6	6.0	5.1	7.4	7.6	7.4	7.6	7.3	7.1	6.2	6.6
b) Private	1.6	0.5	0.8	0.2	0.5	1.8	0.9	0.9	0.4	0.4	0.3	0.8	0.8
7. Use-Level of Ambulatory Care													
a) Primary	72.0	68.3	78.1	76.6	74.6	70.2	67.1	67.2	63.6	63.9	53.9	64.6	68.3
b) Outpatient	17.7	24.8	15.7	17.9	20.8	21.1	28.5	28.1	32.3	30.6	40.1	29.0	25.6
c) Both	10.3	6.9	6.2	5.5	4.7	8.8	4.5	4.7	4.1	5.5	6.0	6.3	6.1
8. Health Insurance-- % of sample with HI	9.0	10.1	8.8	9.7	9.8	12.6	12.6	12.1	14.0	13.9	13.5	18.4	12.0

Notes: a/ There was a gap of 3 years (2003-2005) when the survey collected limited categories of data. Health details were excluded.
Source: Compiled from data in STATIN and PIOJ: Jamaica Survey of Living Conditions, various issues.

Appendix 4.3 Utilisation of Public Health Facilities in Jamaica, 1996-2006

Category	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006/p
A. Hospitals											
1. Inpatient Care											
a) Discharges (thousands)	145.7	153.1	58.5	163.7	173.7	172.0	173.6	179.3	182.0	174.2	172.7
b) Average Length of Stay (days)	5.7	5.8	5.5	5.1	4.9	6.0	6.9	6.4	6.8	6.3	n/a
c) Total Inpatient Days (thousands)	830.5	888.0	871.8	834.9	851.1	1032.0	1197.8	1147.5	1237.6	1097.5	n/a
d) Inpatient Days per Capita	0.33	0.35	0.34	0.32	0.33	0.40	0.46	0.44	0.47	0.41	n/a
2. Outpatient Visits (thousands)	408.6	453.2	450.2	447.9	459.9	468.9	487.7	500.6	504.1	477.2	481.8
3. Casualty Visits (thousands)	546.9	598.0	634.8	654.7	643.1	667.3	695.2	746.8	775.7	680.9	715.7
4. Sub-Total (2+3) (thousands)	955.5	1051.2	1085.0	1102.6	1103.0	1136.2	1182.9	1247.4	1279.8	1158.1	1197.5
5. Total Visits per Capita	0.38	0.41	0.42	0.43	0.43	0.44	0.45	0.48	0.48	0.44	0.45
B. Health Centres											
6. Curative, MCH and Other Visits (thousands)	1736.3	1806.0	888.9	1848.3	1684.2	1611.0	1543.9	1586.6	1535.5	1514.4	n/a
7. Total Visits (6) per Capita	0.69	0.71	0.74	0.72	0.65	0.62	0.59	0.60	0.58	0.57	n/a
C. Other Services (in hospitals and health centres)											
8. Pharmacy Clients Seen (thousands)	470.3	481.7	532.4	378.3	559.9	627.8	688.8	733.9	677.1	645.7	n/a
9. Items Prescribed (thousands)	920.8	954.1	175.9	906.8	1422.5	1565.9	1895.6	1989.3	1856.9	1809.6	n/a
10. Items per Capita	0.37	0.38	0.46	0.35	0.55	0.60	0.69	0.75	0.70	0.68	n/a
11. Radiography Clients Seen (thousands)	166.3	190.1	176.1	175.0	186.9	201.0	197.1	223.9	226.0	206.1	n/a
12. Radiography Exams Done (thousands)	168.7	190.8	194.7	182.5	189.9	205.0	208.7	245.9	264.3	241.3	n/a
13. Radiography Exams per Capita	0.07	0.08	0.08	0.07	0.07	0.08	0.08	0.09	0.1	0.09	n/a
14. Laboratory Exams Done (thousands)	814.8	854.5	1226.4	1187.8	1301.9	1457.0	1619.6	1801.4	1884.9	1993.7	n/a
15. Laboratory Exams per Capita	0.32	0.34	0.48	0.46	0.50	0.56	0.62	0.68	0.71	0.75	n/a

Notes: p/: preliminary; n/a: not available
Source: Compiled from MOH (Health Information Unit) Reports, various years.

Appendix 4.4 Selected Macroeconomic Indicators, 1996-2006

Indicators	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006/p
1 GDP: current (J$bn)	224.5	245.4	262.9	281.2	316.6	349.9	383.5	439.0	498.7	559.5	605.9
2. GDP: constant (J$bn at 1996 prices)	224.5	222.1	219.5	221.5	223.2	227.1	229.5	235.2	237.4	240.9	246.9
3. Real GDP growth (%)	0.4	-1.1	-1.2	0.9	0.8	1.5	1.1	2.3	0.9	1.4	2.5
4. Real GDP per capita (J$'000)	89.4	87.8	85.7	85.9	86.2	87.0	87.5	88.9	89.6	90.7	91.5
5. Total Revenue as % GDP	25.8	25.7	26.7	29.9	32.2	28.9	28.4	31.1	31.1	29.0	n/a
6. Total Expenditure as % GDP	32.7	33.5	34.1	34.0	30.9	35.9	40.9	30.9	36.1	32.3	n/a
7. Debt Servicing (internal and external) as % Total Expenditure	45.7	49.0	53.2	61.7	58.2	67.2	62.1	64.8	65.0	65.9	58.6
8. Total Debt (internal and external) as % GDP	87.9	87.8	91.6	103.1	104.6	139.7	140.3	142.8	145.0	147.9	n/a
9. Surplus/Deficit as % GDP	-6.9	-7.8	-7.4	-4.2	1.2	-5.9	-8.3	-5.9	-4.8	-3.3	n/a
10. Inflation: annual change (%)	15.8	9.2	7.9	6.8	6.1	8.8	7.3	14.1	13.7	12.9	5.8
11. Average Nominal Exchange Rate (J$ to US$)	37.0	35.6	36.7	41.4	45.5	47.4	51.0	60.7	61.4	62.6	66.0
12. Unemployment rate (%)	16.0	16.5	15.5	15.7	15.5	15.0	14.2	11.4	11.7	11.2	10.3
13. Population below poverty line (%)	26.1	19.9	15.9	16.9	18.7	16.9	19.7	19.1	16.9	14.8	14.3
14. Gini Coefficient	0.36	0.42	0.37	0.38	0.38	0.38	0.40	0.38	0.38	0.38	0.38

Notes: p/: preliminary
Source: Compiled from Bank of Jamaica: Statistical Digest, various issues and; PIOJ: Economic and Social Survey, various issues

Appendix 4.5 Public Sector Health Expenditure in Jamaica, 1980/1-2006/7

($Jmillion)

Year	TGE	(1) MOH(R)	(2) MOH (C)	(1)+(2) MOH(T)	(MOH(T)/ TGE) %	Deflator	Real MOH(T)	Population (mn)	Real MOH(T) per capita ($)
1980/1	2391.5	153.2	7.4	160.6	6.7	3.5	4588.6	2.14	2144.2
1981/2	2470.3	158.4	19.4	177.8	7.2	3.8	4678.9	2.18	2146.3
1982/3	2756.0	203.1	20.3	223.4	8.1	4.2	5320.2	2.22	2396.5
1983/4	3360.2	221.9	9.9	231.7	6.9	4.8	4828.1	2.26	2136.3
1984/5	3551.8	226.6	12.8	239.4	6.7	6.5	3683.6	2.30	1601.6
1985/6	6966.3	305.6	6.6	312.2	4.5	8.6	3630.5	2.33	1558.1
1986/7	5680.8	283.0	21.1	304.0	5.4	10.0	3040.2	2.35	1293.7
1987/8	6012.2	350.3	20.8	371.1	6.2	11.0	3373.5	2.36	1429.4
1988/9	8732.9	489.0	56.9	545.9	6.3	12.7	4298.4	2.36	1821.4
1989/90	10237.7	514.8	71.3	586.0	5.7	14.2	4127.1	2.39	1726.8
1990/1	9424.2	652.1	138.5	790.6	8.4	17.4	4543.5	2.41	1885.3
1991/2	17463.8	843.6	200.7	1044.3	6.0	26.0	4016.5	2.44	1646.1
1992/3	25098.1	1214.3	443.8	1658.2	6.6	43.7	3794.4	2.42	1567.9
1993/4	43301.4	2216.0	656.8	2872.9	6.6	60.0	4788.1	2.45	1954.3
1994/5	68225.5	3346.9	720.8	4067.7	6.0	70.9	5737.3	2.47	2322.8
1995/6	81209.2	3032.9	754.4	3787.3	4.7	100.0	3787.3	2.50	1514.9
1996/7	114595.5	4922.3	951.2	5873.5	5.1	120.0	4894.6	2.53	1934.6
1997/8	115042.7	5781.2	1010.2	6791.3	5.9	133.8	5114.0	2.55	2005.5
1998/9	129030.0	7604.0	567.4	8171.4	6.3	140.8	5803.5	2.57	2258.2
1999/00	144494.6	6163.2	713.1	6876.3	4.8	151.7	4532.8	2.59	1750.1
2000/1	175032.3	9032.9	694.0	9726.9	5.6	167.7	5800.2	2.6	2230.8
2001/2	217474.5	7652.3	410.6	8062.9	3.7	182.3	4422.9	2.61	1694.6
2002/3	224701.6	10758.4	266.0	11024.4	4.9	195.8	5630.4	2.62	2149.0
2003/4	279161.3	11143.6	149.8	11293.4	4.0	222.8	5069.4.	2.63	1927.5
2004/5	327473.0	15064.7	330.7	15395.4	4.7	252.3	6102.0	2.65	2302.6
2005/6	346278.3	13137.4	563.6	13701.1	4.0	278.3	4923.2	2.66	1850.8
2006/7	372081.2	16718.9	1117.7	17836.6	4.8	N/A	N/A	N/A	N/A

Notes: n/a: not available; TGE: Total Government Expenditures; MOH (R): Ministry of Health Recurrent; MOH (C): Ministry of Health Capital; MOH (T): Ministry of Health Total
Source: Compiled from various issues of Ministry of Finance Annual Estimates of Expenditure; Bank of Jamaica: Statistical Digest; and; PIOJ: Economic and Social Survey.

Appendix 4.6 Public Health Financing in Jamaica – Actual and Simulations, 1980/1 – 2006/7 *($Jmillion)*

Year	Actual							Sim. 1	Sim 2.		Sim. 3	
	TGE	Nominal MOH(T)	(MOH(T)/ TGE) (%)	Deflator	Real MOH(T)	POP (mn)	Real MOH(T) p.c.	Nominal MOH (T) at constant 6.7% of TGE	Real MOH(T) p.c. at 0.5% increase p.a.	Nominal MOH(T) at 0.5% real p.c. increase p.a.	Real MOH(T) p.c. at 1% real increase p.a.	Nominal MOH(T) at 1% real p.c. increase p.a.
1980/1	2391.5	160.6	6.7	3.5	4588.6	2.14	2144.2	160.6	2144.2	160.6	2144.2	160.6
1981/2	2470.3	177.8	7.2	3.8	4678.9	2.18	2146.3	165.5	2154.9	178.5	2165.6	179.4
1982/3	2756.0	223.4	8.1	4.2	5319.0	2.22	2396.0	184.7	2165.7	201.9	2187.3	203.9
1983/4	3360.2	231.8	6.9	4.8	4829.2	2.26	2136.8	225.1	2176.5	236.1	2209.2	239.7
1984/5	3551.8	239.4	6.7	6.5	3683.1	2.3	1601.3	238.0	2187.4	327.0	2231.3	333.6
1985/6	6966.3	312.2	4.5	8.6	3630.2	2.33	1558.0	466.7	2198.3	440.5	2253.6	451.6
1986/7	5680.8	304.1	5.4	10.0	3041.0	2.35	1294.0	380.6	2209.3	519.2	2276.1	534.9
1987/8	6012.2	371.1	6.2	11.0	3373.6	2.36	1429.5	402.8	2220.4	576.4	2298.9	596.8
1988/9	8732.9	545.9	6.3	12.7	4298.4	2.36	1821.4	585.1	2231.5	668.8	2321.9	695.9
1989/90	10237.7	586.1	5.7	14.2	4127.5	2.39	1727.0	685.9	2242.6	761.1	2345.1	795.9
1990/1	9424.2	790.6	8.4	17.4	4543.7	2.41	1885.3	631.4	2253.8	945.1	2368.5	993.2
1991/2	17463.8	1044.3	6.0	26.0	4016.5	2.44	1646.1	1170.1	2265.1	1437.0	2392.2	1517.6
1992/3	25098.1	1658.1	6.6	43.7	3794.3	2.42	1567.9	1681.6	2276.4	2407.4	2416.1	2555.2
1993/4	43301.4	2872.8	6.6	60.0	4788.0	2.45	1954.3	2901.2	2287.8	3363.1	2440.3	3587.2
1994/5	68225.5	4067.7	6.0	70.9	5737.2	2.47	2322.8	4571.1	2299.3	4026.5	2464.7	4316.2
1995/6	81209.2	3787.3	4.7	100.0	3787.3	2.5	1514.9	5441.0	2310.8	5776.9	2489.3	6223.4
1996/7	114595.5	5873.5	5.1	120.0	4894.6	2.53	1934.6	7677.9	2322.3	7050.5	2514.2	7633.2
1997/8	115042.7	6791.4	5.9	133.8	5075.8	2.55	1990.5	7707.9	2333.9	7963.1	2539.4	8664.1
1998/9	129030.0	8171.4	6.3	140.8	5803.6	2.57	2258.2	8645.0	2345.6	8487.7	2564.8	9280.8
1999/00	144494.6	6876.3	4.8	151.7	4532.8	2.59	1750.1	9681.1	2357.3	9262.0	2590.4	10177.8
2000/1	175032.3	9726.9	5.6	167.7	5800.2	2.6	2230.8	11727.2	2369.1	10329.8	2616.3	11407.7
2001/2	217474.5	8062.9	3.7	182.3	4422.9	2.61	1694.6	14570.8	2381.0	11328.7	2642.5	12573.0
2002/3	224701.6	11024.4	4.9	195.8	5630.4	2.62	2149.0	15055.0	2392.9	12275.3	2668.9	13691.4
2003/4	279161.3	11293.4	4.0	222.8	5068.9	2.63	1927.3	18703.8	2404.8	14091.4	2695.6	15795.2
2004/5	327473.0	15395.4	4.7	252.3	6102.0	2.65	2302.6	21940.7	2416.8	16158.9	2722.6	18202.9
2005/6	346278.3	13701.0	4.0	278.3	4923.1	2.66	1850.8	23200.6	2428.9	17980.8	2749.8	20356.0
2006/7	372081.2	17836.6	4.8	N/A	N/A	N/A	N/A	24929.4	2441.1	N/A	2777.3	N/A

Notes: n/a: Not Available; TGE: Total Government Expenditure (Recurrent and Capital); MOH(T): Ministry of Health Total Expenditure (Recurrent and Capital); POP: Population
Source: Compiled from various issues of Ministry of Finance Annual Estimates of Expenditure; Bank of Jamaica Statistical Digest and PIOJ Economic and Social Survey.

Appendix 4.7 User Fee Collections for Health Services, 1983/4-2006/7

Year	MOH(R) $J Million	Fee Collection $J Million	Fee Collection as % of MOH(R)	RHA's(R) $J Million	Fee Collection as % of RHA(R)
1983/4	221.9	0.2	0.1	n/a	n/a
1984/5	226.6	3.1	1.4	n/a	n/a
1985/6	305.6	4.6	1.5	n/a	n/a
1986/7	283.0	5.0	1.8	n/a	n/a
1987/8	350.3	5.7	1.6	n/a	n/a
1988/9	489.0	6.3	1.3	n/a	n/a
1989/90	514.8	7.8	1.5	n/a	n/a
1990/1	652.1	7.4	1.1	n/a	n/a
1991/2	843.6	9.3	1.1	n/a	n/a
1992/3	1214.3	21.1	1.7	n/a	n/a
1993/4	2216.0	53.1	2.4	n/a	n/a
1994/5	3346.9	83.9	2.5	n/a	n/a
1995/6	3032.9	128.4	4.2	n/a	n/a
1996/7	4922.3	188.7	3.8	n/a	n/a
1997/8	5781.2	277.9	4.8	5015.4	5.5
1998/9	7604.0	368.5	4.8	6746.4	5.5
1999/00	6163.2	638.3	10.4	4330.3	14.7
2000/1	9032.9	645.2	7.1	6520.2	9.9
2001/2	7652.3	810.0	10.6	5483.4	14.8
2002/3	10758.4	895.0	8.3	7892.7	11.3
2003/4	11143.6	1061.1	9.5	9395.0	11.3
2004/5	15064.7	1197.1	7.9	12221.7	9.8
2005/6	13137.4	1601.2	12.2	11218.8	14.3
2006/7	16718.9	1630.0	9.7	15213.7	10.7

Notes: n/a: not available; MOH (R): Ministry of Health Recurrent Expenditure; RHA (R): Regional Health Authorities Recurrent Expenditure
Source: Compiled from various issues of Ministry of Health Annual Reports and Ministry of Finance Annual Estimates of Expenditure.

Appendix 4.8 Typical Health Packages Offered by Private Insurers in Jamaica, 1997-2000

Benefit	Company A	Company B	Company C	Company D	Company E
Prescription Drugs	Covers 80% of cost. Financial limit on claims per year for most groups. After limit, and deductible, 80% of cost covered if person has MMED.	Covers 80% of cost. Financial limit on claims per year for most groups.	Covers 80% of cost. Financial limit on claims per year for most groups. After limit, and deductible, 80% of cost covered if person has MMED.	Covers 80% of cost. Financial limit on claims per year for most groups. After limit and deductible, 80% of cost covered if person has MMED.	Covers 80% of cost. Financial limit on claims per year for most groups. After limit and deductible, 80% of cost covered if person has MMED.
Laboratory, X-ray services	Full cover up to financial maximum. After limit and deductible, 80% of cost covered in MMED.	Covers 80% of UCR fee. CAT scan, MRI and other specialized procedures need pre-authorisation.	80% cover up to financial maximum. After limit and deductible, 80% of cost covered in MMED.	Full cover up to financial maximum. After limit and deductible, 80% of cost covered in MMED.	Full cover up to financial maximum. After limit and deductible, 80% of cost covered in MMED.
Maternity	Normal delivery: all charges covered up to maximum. Complications including C-section covered under surgical or medical procedures list.	Normal delivery: all charges covered up to maximum. Complications including C-section covered under surgical or medical procedures list.	Normal delivery: all charges covered up to maximum. Complications including C-section covered under surgical or medical procedures list.	Normal delivery: all charges covered up to maximum. Complications including C-section covered under surgical or medical procedures list.	Normal delivery: all charges covered up to maximum. Complications including C-section covered under surgical or medical procedures list.
Doctor's Visit	Fixed payment per visit up to 4 visits per year to GP and 5 visits per disability to specialist.	Fixed payment per visit (higher for home visits) up to 4 visits per year.	Fixed payment per visit (higher for home visits) up to 4 visits per year.	Fixed payment per visit up to 4 visits per year to GP and 5 visits per disability to specialist.	Fixed payment per visit up to 4 visits per year to GP and 5 visits per disability to specialist.
Surgical benefit	Surgeon's fee covered at UCR fee using CRV schedule up to maximum. Assistant surgeon and anesthetist get 25% and 40% respectively of surgeon's fee. 80% of cost above maximum covered under MMED after deductible is paid.	Covers up to 80% of UCR fee for surgeon. Assistant surgeon and anesthetist receive 25% and 40% respectively of surgeon's fee.	Covers up to stipulated maximum per procedure using UCR rate. Assistant surgeon and anesthetist receive 40% each of surgeon's fee. 80% of cost above maximum covered under MMED after deductible is paid.	Covers up to stipulated maximum per procedure. Assistant surgeon and anesthetist receive 40% each of surgeon's fee. 80% of cost above maximum covered under MMED after deductible is paid.	Covers up to stipulated maximum per procedure. Assistant surgeon and anesthetist receive 40% each of surgeon's fee. 80% of cost above maximum covered under MMED after deductible is paid

Benefit	Company A	Company B	Company C	Company D	Company E
Hospital room and board, miscellaneous services (dressings, treatment, medical supplies) and outpatient care.	Fixed amount per day. Maximum of 120 days per year. Maximum for miscellaneous expenses and outpatient services per disability.	Fixed amount per day. Maximum of 120 days per year. Maximum for miscellaneous expenses and outpatient services per disability.	Fixed amount per day. Maximum of 120 days per year. Maximum for miscellaneous expenses and outpatient services per disability.	Fixed amount per day. Maximum of 120 days per year. Maximum for miscellaneous expenses and outpatient services per disability.	Fixed amount per day. Maximum of 120 days per year. Maximum for miscellaneous expenses and outpatient services per disability. After maximum, and deductible 80% cover with MMED.
Overseas hospitalisation	Fixed amount per person per annum	Fixed amount per person per annum	Fixed amount per person per annum	Fixed amount per person per annum	Fixed amount per person per annum for emergency only. Pre-authorization needed for non-emergency care.
Physiotherapy and Radiotherapy	Fixed amount of sessions per person and maximum fee per disability per year.	Fixed amount of sessions per person and maximum fee per disability per year	Fixed amount of sessions per person and maximum fee per disability per year	Fixed amount of sessions per person and maximum fee per disability per year	Fixed amount of sessions per person and maximum fee per disability per year

Notes: MMED: Major Medical Benefits after exhausting benefits under Basic Medical Package; CRV: California Relative Value schedule which measures surgical procedures by units of complexity; UCR: Usual, Customary and Reasonable charges
Source: Compiled from data from private health insurance companies.

Appendix 5.1a Key NHI Design features Recommended by Stakeholders, Questions 1 - 7

Stakeholders	(1) Reasons for NHIP	(2) Alternatives	(3) 'Models'	(4) External Agencies	(5) Main Goals	(6) Assist Sector	(7) Key Features
Public Sector							
PS	• Assist government in financing health for all	• User fees • Health levy • Private finance	• Bermuda • Colombia • Trinidad & Tobago	• IDB • USAID • World Bank	• Supplementary finance • Health security	• Cost sharing • Access to Basic Package	• Compulsory • GPP package • Subsidies for poor • Choice of provider • Public company to subcontract • CCF • New regulatory body
DHRU	• Assist government in financing health	• User fees • Health levy • Debt-health swap	• Bermuda • Colombia • Trinidad & Tobago	• DB • USAID • World Bank	• Supplementary finance • Improve equity/access	• Less waiting lines/lists • More personal responsibility	• Compulsory • GPP package • Subsidies for poor • Choice of provider • Public company to subcontract • Defer CCF
DNHIP	• Better health financing mechanism	• User fees • Private insurance • Higher taxes	• South Korea • Taiwan • Costa Rica • Bermuda	• IDB • World Bank	• Dominant financing mechanism • Health security	• Covers "big cost" private services. Government focus on public health	• Compulsory • GPP package • Subsidies for poor • Choice of provider • Competing public company • CCF • New regulatory body
CMO	• More money for health	• User fees • "Sin taxes" • Lottery	• Germany • Chile • Managed Care	• IDB • USAID • World Bank	• Improve availability and quality	• More funds for health promotion/ prevention	• Compulsory but phased • Health promotion in package • Single public insurer • Ceiling on administrative cost • Choice of provider • No CCF

Stakeholders	(1) Reasons for NHIP	(2) Alternatives	(3) 'Models'	(4) External Agencies	(5) Main Goals	(6) Assist Sector	(7) Key Features
SMO/STC	• More resources for hospitals	• User fees • "Sin taxes" • Health levy	• Germany • Canada-OHIP • Bermuda	• IDB • USAID • World Bank	• Improve availability • quality and access	• Less waiting time/lists • More staff retention	• Compulsory • Phased Package • Subsidies for poor • Phased choice of provider • Single public insurer • Defer CCF
MOF	• Cost sharing by public for health	• User fees • Efficiency savings	• Chile • Germany • Managed care in US	• IDB • World Bank • IMF	• Improve choice, efficiency, cost-sharing	• Personal responsibility • Targeted subsidies	• Compulsory • Premium-based package • Limited subsidies • Choice of provider • Public company to subcontract • No CCF
PIOJ	• Cost sharing by public for health	• User fees • Sin taxes • Debt-health swap	• Chile • Managed care in US • Colombia	• IDB • World Bank • IMF	• More private financing • Improve choice	• Basic Package for all • Targeted subsidies	• Compulsory • Mixed package • Choice of provider • Public company to subcontract • Administrative cost ceiling • No CCF
NIS	• More funds for health services	• User fees • Sin taxes • Health levy	• Medicare • Germany	• IDB • World Bank	• Health security • Improve quality of care	• Basic Package for all • Less waiting time/lists	• Compulsory • Phased package • Subsidies for poor • Choice of provider • Strong regulations • CCF
Professional							
JAHSE	• More cost sharing	• User fees • Lottery • Debt-health swap	• Medicare and Medicaid • Canada • Trinidad& Tobago	• IDB • World Bank • USAID	• Public-private mix • More reliable flow of funds	• Less stock-outs/ waiting times • Incentives for staff	• Compulsory • GPP package • Subsidies for poor • Choice of provider • Limited CCF

Stakeholders	(1) Reasons for NHIP	(2) Alternatives	(3) 'Models'	(4) External Agencies	(5) Main Goals	(6) Assist Sector	(7) Key Features
MAJ	• More funds for health	• Efficiency savings • Sin taxes • Re-allocate expenditure	• Germany	• IDB • World Bank • IMF • USAID	• Improve choice, efficiency and access	• More funds for primary care • Client-driven services	• Compulsory • PHC-based package • Subsidies to poor • Choice of provider • NIS to administer plan with contracts to private insurers • No CCF • Self-regulation
NAJ	• More funds for public sector services	• Sin taxes • Health levy	• Medicare and Medicaid	• IDB • World Bank • IMF	• Improve availability and quality of services	• Less waiting time/lists • Incentives for staff	• Compulsory • GPP package • Subsidies for poor • Choice of provider • Limited CCF • Incentives for staff
Commercial							
JEF	• More reliable funds for health	• Efficiency savings • Lottery • Debt-health swap	• Managed care in US • Medical savings in Singapore	• World Bank • IDB • IMF	• Public-private collaboration • Improve access	• Client-oriented services • Less waiting time/lists	• Coverage in phases • Mixed package • Poor use public care • Choice of provider • Contract private insurers • No CCF • Use current regulator
SBAJ	• More equitable financing	• Sin taxes • Re-allocate expenditure	• Managed care in US • Germany	• World Bank • IDB • IMF • USAID	• Health security • Improve access	• Less stock-outs, waiting time • Client-driven services	• Compulsory • Mixed package • Subsidies for poor • Lower premium for small business • Choice of provider • New public company • Limited CCF

Stakeholders	(1) Reasons for NHIP	(2) Alternatives	(3) 'Models'	(4) External Agencies	(5) Main Goals	(6) Assist Sector	(7) Key Features
LICA	• More dedicated funds for health	• Efficiency savings • Lottery • Debt-health swap	• Managed care in US • Chile	• IDB • World Bank • IMF	• Public-private partnerships • Custom-designed packages	• More choice and efficiency • Reliable funds for health	• Compulsory • Custom-designed packages • Subsidies to private insurers for the poor • Choice of provider • No public company • No CCF • Self-regulation
BCJ	• More reliable funds for health	• Private insurance • Lottery	• Managed care in US • Medicare • Chile	• IDB • World Bank • USAID	• Health security • Improve access	• Client-driven services • Targeted subsidies	• Compulsory • Custom-designed packages • Contract private insurer via tender • Subsidise enrolment of poor • Choice of provider • No CCF
Trade Union							
JCTU	• More cost sharing and equitable financing	• Lottery • Re-allocate expenditure	• Germany • Costa Rica • Canada	• IDB • World Bank • IMF	• Health security • Improve access	• Community responsibility for health • Less waiting time/lists	• Compulsory • Mixed package • Subsidies for poor • Choice of provider • Competing public company • CCF • New regulatory body.

Notes: PS: Permanent Secretary, Ministry of Health; DHRU: Director, Health Reform Unit, MOH; SMO-SC: Senior Medical Officer, Secondary and Tertiary Care, MOH; DNHIP: Director, NHIP Implementation Unit, MOH; DNIS: Director, National Insurance Scheme; JAHSE: Jamaica Association of Health Services Executives; EA-MOF: Economic Advisor to Minister of Finance; JCTU: Jamaica Confederation of Trade Unions; NAJ: Nursing Association of Jamaica; SBAJ: Small Business Association of Jamaica; PIOJ: Director, Planning Institute of Jamaica; CMO: Chief Medical Officer, MOH; JEF: Jamaica Employers Federation; BCJ: Blue Cross of Jamaica; LICA: Life Insurance Companies Association; MAJ: Medical Association of Jamaica.
Source: Compiled by author

Appendix 5.1b Key NHI Design features Recommended by Stakeholders, Questions 8 - 13

Stakeholders	(8) Non-Negotiables	(9) Criteria	(10) Ranking	(11) Equity Impact	(12) Efficiency Impact	(13) Success Factors
Public Sector						
PS	• Compulsory • Choice of provider • Subsidies for poor	• Net revenue • Equity • Efficiency • Choice	• Net revenue • Equity • Efficiency • Choice	• Basic package for all • Subsidies for poor	• Choice and competition • Government focus on public health	• Compliance • Behaviour of providers • Strong regulatory body
DHRU	• Compulsory • Choice of insurer and provider • Subsidies for poor	• Net revenue • Equity • Efficiency • Sustainability	• Net revenue • Equity • Efficiency • Sustainability	• Basic package for all • Subsidies for poor	• Competing providers and insurers • Government focus on public health	• Assured government funds • No abuse • Timely collections
DNHI	• Compulsory • GPP services package • Public company	• Net revenue • Equity • Efficiency • Choice	• Equity • Net revenue • Efficiency • Choice	• Basic package for all • Insurance for the poor	• Choice of insurer and provider	• Investment in IT system • Bargaining power of insurers
CMO	• Phased coverage • Health promotion • Administrative ceilings	• Net revenue • Sustainability • Efficiency	• Net revenue • Sustainability • Efficiency	• More funds for public health services	• Health promotion in package • Administrative cost ceiling	• Timely government funds • Timely collections • Health promotion • No abuse-role for copayments
SMO/STC	• Compulsory • Phased package • Single public insurer	• Net revenue • Equity • Efficiency • Sustainability	• Net revenue • Efficiency • Sustainability • Equity	• Improved public health services for all	• Ceiling on administrative cost	• Timely government funds • Timely collections • No abuse
MOF	• Compulsory • Premium-based package • Limited subsidies	• Efficiency • Sustainability	• Efficiency • Sustainability	• Cost sharing	• Competition • Administrative ceiling	• Premium not subsidy driven • Strong administration
PIOJ	• Compulsory • Choice of insurer and provider	• Efficiency • Choice • Equity	• Efficiency • Equity	• Improved access • Cost sharing	• Choice of insurer and provider • Administrative ceiling	• Compliance in collections • Macroeconomic gains • No abuse-role for copayments
NIS	• Compulsory • Subsidies for poor	• Equity • Net revenue • Efficiency	• Equity • Efficiency • Net revenue	• Basic package for all • Cost-sharing	• Administrative ceiling • Choice	• Good IT system • Collection • Timely government funds

Stakeholders	(8) Non-Negotiables	(9) Criteria	(10) Ranking	(11) Equity Impact	(12) Efficiency Impact	(13) Success Factors
Professional						
MAJ	• Compulsory • PHC-based package • Choice of provider • No CCF	• Provider autonomy • Efficiency • Choice	• Provider autonomy • Efficiency • Choice	• Access to GP services by poor • Cost-sharing	• PHC-based package • Administrative ceilings	• PHC-based package • Autonomous providers • Administrative ceilings
NAJ	• Compulsory • Choice • Staff incentives	• Equity • Net revenue • Choice	• Equity • Net revenue • Choice	• Improved access	• Staff incentives • Choice	• Improved staff welfare • Compliance • Accountability
JAHSE	• Compulsory • Subsidies for poor • Choice	• Efficiency • Equity • Net revenue	• Efficiency • Equity • Net revenue	• Basic package for all • Subsidies for poor	• Choice • Reliable funding for services	• Timely provider payments • Behaviour of GP's • Economic growth
Commercial						
JEF	• Coverage in phases • Mixed package • Choice • No public company	• Efficiency • Sustainability • Choice	• Efficiency • Sustainability • Choice	• Cost-sharing by informal sector • Improved access	• Administrative ceilings • Strong regulation • Choice	• Economic growth • Collection from informal sector • No abuse-use copayments
SBAJ	• Compulsory • Choice • Lower premiums	• Equity • Efficiency	• Equity • Efficiency	• Improved access • Lower premiums by small businesses	• Choice • Improved services with less waiting time/lists	• Quality of services • Economic growth • Tax breaks from Government
LICA	• Custom-designed packages • Choice • No public company	• Choice • Efficiency • Insurer autonomy	• Choice • Efficiency • Autonomy	• Improved access • Subsidies to private insurers for the poor	• Choice • Custom-designed packages • Self-regulation	• Economic growth • Upgraded health services • Timely government funds
BCJ	• Compulsory • Custom-designed package • Choice • Tender process for contract	• Efficiency • Choice • Equity	• Efficiency • Choice • Equity	• Improved access for the poor • Custom-designed packages	• Tender process for insurer contract • Proper billing by providers	• Collection • Timely government funds for poor • No abuse—use copayments • Good IT system
Trade Union						
JCTU	• Compulsory • Competing public company • Mixed package	• Equity • Efficiency • Choice	• Equity • Efficiency • Choice	• Basic package for all • Larger contributions from employers	• Choice • Administrative cost ceiling • Less waiting time/lists	• Upgraded services • Management efficiency • Accountability

Source: Compiled by author

APPENDIX 6.1: FINANCIAL MODELLING OF NHI IN JAMAICA, 2002-2010 (J$)

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
A. Economic and Demographic								
Real GDP ($bn)	382.2	391.0	398.8	404.8	410.9	417.0	436.0	(1) Official data 2002-4.Calculated (1)*(2) from '05
Growth rate (%)	1.1	2.3	1.2	1.5	1.5	1.5	1.5	(2) Official data and projections from 2005
Index (2002=1.00)	1	1.02	1.04	1.06	1.08	1.09	1.14	(3) Calculated from (1)
Real GDP per capita ($'000)	145.9	148.7	151.1	152.8	154.5	156.2	160.9	(4) Official data 2002-4.Calculated (4)*(5) from '05
Growth rate (%)	0.7	1.8	0.7	1.0	1.0	1.0	1.0	(5) Official data and projections from 2005
Index (2002=1.00)	1	1.02	1.04	1.05	1.06	1.07	1.10	(6) Calculated from (4).
General Inflation (%)	7.1	10.3	13.6	8.0	8.0	8.0	8.0	(7) Official data and projections from 2005
Medical Inflation (%)	8.6	11.8	15.1	9.5	9.5	9.5	9.5	(8) Official data and projections from 2005
Medical minus gen. inflation	1.5	1.5	1.5	1.5	1.5	1.5	1.5	(9) Calculated :(7) - (8)
Population (mn)	2.62	2.63	2.64	2.65	2.66	2.67	2.71	(10) Official data 2002-4.Calculated (10) *(11) from '05
Growth rate (%)	0.4	0.5	0.5	0.5	0.5	0.5	0.5	(11) Official data and projections from 2005
Index (2002=1.00)	1	1.004	1.008	1.011	1.015	1.019	1.034	(12) Calculated from (10).
Over 65 yrs pop. Growth rate (%)	0.5	0.6	0.6	0.6	0.6	0.6	0.6	(13) Official data and projections from 2005
Index of over 65 g.r. (2002=1.00)	1	1.006	1.011	1.017	1.023	1.029	1.047	(14) Calculated from (13)
Dependency ratio	0.63	0.63	0.63	0.61	0.61	0.61	0.61	(15) Calculated from population data i.e.
								[pop(0-14)+(65 and more)]/(15-64)
Av. Size of households(persons)	3.6	3.6	3.5	3.5	3.5	3.4	3.4	(16) Official data and projections from 2005
Number of households ('000)	728	731	754	757	760	785	797	(17) Calculated : (10)/(16)
% persons below poverty line	19.7	19.1	20	20	20	20	20	(18) Official data and projections from 2005
No. of persons in poverty ('000)	516	503	528	530	532	534	542	(19) Estimated (10)*(18)

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
B. Labour Force and Earnings								
% population 15 and over	69.5	69.5	69.5	70	70	70	70	(20) Calculated from official population data
Adult population (mn)	1.82	1.83	1.84	1.85	1.86	1.87	1.90	(21) Calculated [(10)*(20)]
% Institutionalised population	2.3	2.3	2.3	2.3	2.3	2.3	2.3	(22) Estimate from official population data
Potential Labour Force--PLF-(mn)	1.78	1.79	1.8	1.81	1.82	1.83	1.86	(23) Calculated [(21)*{100-(22)}]
Labour Force Part. Rate (%)	64	64	65	65	66	66	66	(24) Official data and projections from '05
Actual Labour Force--ALF--(mn)	1.14	1.15	1.17	1.18	1.2	1.21	1.23	(25) Official data 2002-4. Calculated from '05 (23)*(24)
Actual Labour Force as % pop.	44	44	44	45	45	45	45	(26) Calculated. (25)/(10)
% Employed	84	84	86	86	86	86	86	(27) Official data and projections from '05
Employed labour force--ELF-(mn)	0.96	0.97	1.01	1.02	1.03	1.04	1.06	(28) Official data 2002-4. Estimated from '05 [(25)*(27)]
% Unemployed	16	16	14	14	14	14	14	(29) Official data and projections from '05
Unemployed Labour Force (mn)	0.18	0.18	0.16	0.16	0.17	0.17	0.17	(30) Official data 2002-4. Estimated from '05.[(25)*(29)]
Government workers (% of ELF)	13	13	11	11	11	11	11	(31) Official data and projections from '05
Private sector workers (% of ELF)	51	51	55	55	55	55	55	(32) Official data and projections from '05
Own Account workers (% of ELF)	36	36	34	34	34	34	34	(33) Official data and projections from '05
Total Wage earnings as % GDP	65	65	68	68	68	68	68	(34) Official data and projections from '05
Total real wage base ($bn)	248.4	254.2	271.2	275.3	279.4	283.6	296.5	(35) Calculated (1)*(34)
Av. Real earnings pepa ($'000)	258.8	262.0	268.5	269.9	271.3	272.7	279.7	(36) Calculated (35)/(28)
Growth rate (%)	1.1	1.2	2.5	0.5	0.5	0.5	0.5	(37) Calculated from (36)
Real earnings index (2002=1.00)	1	1.012	1.038	1.043	1.048	1.054	1.081	(38) Calculated from (36) and (37)
Labour productivity ($'000)	398.1	403.1	394.9	396.9	398.9	401.0	411.3	(39) Calculated (1)/(28)
ELF as % Population	37	37	38	38	39	39	39	(40) Calculated. (28)/(10)
Economic Dependency ratio	1.7	1.7	1.63	1.63	1.56	1.56	1.56	(41) Calculated. [100-(40)]/(40)

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
C. NHI Benefit Package and Costs								
Sub-model 1a--Inpatient Care in								
Public Hospitals								
Inpatient days per capita	0.46	0.44	0.45	0.45	0.45	0.45	0.45	(42) Official data '02-'03. Proj.from '04 use adjusted
								last 3 year ('01-'03) average. See text table.....
Inpatient days ('000)	1198	1148	1188	1193	1197	1202	1220	(43) Official data '02-03. Proj. from '04 using (10)*(42)
Cost per inpatient day ($)	3923	3982	4042	4103	4165	4227	4420	(44) Estimated from MOH budget data. See text table.
								Adjusted after '02 for medical inflation (9).
Total Inpatient Cost ($mn)	4700	4571	4802	4895	4986	5081	5392	(45) Calculated. (43)*(44)
Sub-model 1b--Inpatient Care								
in Private Hospitals								
Inpatient days per capita								
Inpatient days ('000)								
Cost per inpatient day ($)								
Total Inpatient Cost ($mn)	1100	1122	1144	1167	1190	1214	1284	(46) Estimated. See text table..
Total Cost Inpatient Care ($mn)	**5800**	**5693**	**5946**	**6062**	**6176**	**6295**	**6676**	(47) Sum (45)+(46)
Sub-model 2a--Outpatient and								
Casualty Visits in Public Hospitals								
Visits per capita	0.45	0.48	0.47	0.47	0.47	0.47	0.47	(48) Official data '02-'03. Proj. from '04 use adjusted
								last 3-year ('01-'03) average. See text table.....
Outpatient-Casualty visits ('000)	1183	1247	1241	1246	1250	1255	1274	(49) Official data '02-'03. Proj. from '04 using (10)*(46)
Cost per visit ($)	1860	1888	1916	1945	1974	2004	2095	(50) Estimated from MOH budget data. See text table.
								Adjusted after '02 for medical inflation (9).
Total Cost of Visits ($mn)	2200	2354	2378	2423	2468	2515	2669	(51) Calculated (49)*(50).
Sub-model 2b--Outpatient and								
Casualty visits in Private Hospitals								
Visits per capita								
Outpatient-Casualty visits ('000)								
Cost per visit ($)								
Total Cost of visits ($mn)	500	510	520	530	540	551	584	(52) Estimated. See text table
Total Cost OP/Cas Visits (J$mn)	**2700**	**2864**	**2898**	**2953**	**3008**	**3066**	**3253**	(53) Sum (51)+(52)

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
Sub-model 3a-Ambulatory Visits to Public Clinics								
Visits per capita	0.57	0.6	0.6	0.6	0.6	0.6	0.6	(54) Official data '02-'03. Proj. from '04 use adjusted
								last 3-year ('01-'03) average. See text table.....
Ambulatory visits ('000)	1502	1566	1584	1590	1596	1602	1626	(55) Official data '02-'03. Proj. from '04 using (10)*(54)
Cost per visit ($)	932	946	960	974	989	1004	1050	(56) Estimated from MOH budget data. See text table.
								Adjusted after '02 for medical inflation (9)
Total Cost of Visits ($mn)	1400	1481	1521	1549	1578	1608	1707	(57) Calculated (55)*(56)
Sub-model 3b--Ambulatory Visits								
to Private GP-Specialists								
Visits per capita								
Ambulatory Visits ('000)								
Cost per visit ($)								
Total Cost of Visits ($mn)	4200	4284	4370	4457	4546	4637	4917	(58) Estimated. See text table
Total Cost Ambulatory Visits($mn)	**5600**	**5765**	**5891**	**6006**	**6124**	**6245**	**6624**	(59) Sum (57)+(58)
Sub-model 4a--Prescription Drugs								
in Public Pharmacies								
Prescribed Items filled per capita	0.72	0.76	0.75	0.75	0.75	0.75	0.75	(60) Official data '02-'03. Proj.from '04 use adjusted
								last 3-year ('01-'03) average. See text table...
Prescribed items filled ('000)	1896	1989	1980	1988	1995	2003	2033	(61) Official data '02-'03. Proj. from '04 using (10)*54)
Cost per item ($)	686	696	706	717	728	739	773	(62) Estimated from MOH budget data. See text table.
								Adjusted after '02 for medical inflation (9)
Total Cost Prescriptions ($mn)	1300	1384	1398	1425	1452	1480	1572	(63) Calculated (61)*(62).
Sub-model 4b--Prescription Drugs								
in Private Pharmacies								
Prescribed items filled per capita								
Prescribed items filled ('000)								
Cost per item ($)								
Total Cost Prescriptions ($mn)	3800	3876	3954	4033	4114	4196	4450	(64) Estimated. See text table
Total Cost Prescribed Items ($mn)	**5100**	**5260**	**5352**	**5458**	**5566**	**5676**	**6022**	(65) Sum (63)+(64)

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
Sub-model 5a--Diagnostic Services								
in Public Facilities								
Imaging-Lab exams done per cap.	0.7	0.75	0.75	0.75	0.75	0.75	0.75	(66) Official data '02-'03. Proj.from '04 use adjusted
								last 3-year ('01-'03) average. See text table...
Imaging-lab exams done ('000)	1829	1991	1980	1988	1995	2003	2033	(67) Official data '02-'03. Proj. from '04 using (10)*(58)
Cost per image-exam ($)	383	389	395	401	407	413	432	(68) Estimated from MOH budget data. See text table.
								Adjusted after '02 for medical inflation (9)
Total Cost of Images- Exams ($mn)	700	774	782	797	812	827	878	(69) Calculated (67)*(68).
Sub-model 5b--Diagnostic Services								
in Private Facilities								
Imaging-Lab exams done per capita								
Imaging-lab exams done ('000)								
Cost per image-exam ($)								
Total Costs of Images-Exams ($mn)	1100	1122	1144	1167	1190	1214	1286	(70) Estimated. See text table
Total Cost-Diagnostic Services($mn)	**1800**	**1896**	**1926**	**1964**	**2002**	**2041**	**2164**	(71) Sum (69)+(70)
Overseas care ($mn)	200	204	208	212	216	220	232	(72) Estimated. See text table
TOTAL COST -BENEFITS ($bn)	**21.2**	**21.7**	**22.2**	**22.7**	**23.1**	**23.5**	**25.0**	**(73) Sum (47)+(53)+(59)+(65)+(71)+(72)**

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
D. NHI All Items Cost-Expenditure								
i) Prototype (PT)								
Benefit Package ($bn)	21.2	21.7	22.2	22.7	23.1	23.5	25.0	(73) Same as Total cost of benefits above.
Administration at 7.5% ($bn)	1.59	1.63	1.67	1.7	1.73	1.76	1.88	(74) Assumption... (73)*0.075
Total Cost ($bn)	22.79	23.33	23.87	24.40	24.83	25.26	26.88	(75) Sum..(73)+(74)
Average cost-payment pmpa ($)	8699	8871	9042	9208	9335	9461	9919	(76) Calculated ..(75)/(10)
ii) Green Paper Proposal (GPP)								
Benefit Package ($bn)	12.9	13.1	13.4	13.7	14	14.2	15.1	(77) Calculated..(73)-[(53)+(59)]
Administration at 15% ($bn)	1.94	1.97	2.01	2.06	2.1	2.13	2.27	(78) Assumption...(77)*0.15
Total Cost ($bn)	14.84	15.07	15.41	15.76	16.1	16.33	17.37	(79) Sum...(77)+(78)
Average cost-payment pmpa ($)	5664	5730	5837	5947	6053	6116	6410	(80) Calculated...(79)/(10)
iii) Stakeholders Alternative (SAP)								
Benefit Package ($bn)	21.0	21.5	22.0	22.5	22.9	23.3	24.77	(81) Calculated...(73)-(72)
Administration at 15% ($bn)	3.15	3.23	3.3	3.38	3.44	3.5	3.72	(82) Assumption..(81)*0.15
Total Cost ($bn)	24.15	24.73	25.3	25.88	26.34	26.9	28.49	(83) Sum...(81)+(82)
Average cost-payment pmpa ($)	9218	9403	9583	9766	9902	10075	10513	(84) Calculated...(83)/(10)

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
E. Income-Revenue								
No.of contributors--employed pop. (	0.96	0.97	1.01	1.02	1.03	1.04	1.06	(85) Same as (28) above.
Total Insurable Earnings ($bn)	248.4	254.2	271.2	275.3	279.4	283.6	296.5	(86) Same as (35) above.
Compliance rate	0.7	0.7	0.7	0.7	0.7	0.7	0.7	(87) Assumed using benchmarks from Inland Revenue
Expected Income base ($bn)	173.9	177.9	189.8	192.7	195.6	198.5	207.6	(88) Calculated (86)*(87)
Income-Revenue in PT	Assume Gov't pays 100% for indigents; ELF for themselves and non-indigent population							
Gov't payments for indigents ($bn)	4.49	4.47	4.77	4.88	4.97	5.05	5.38	(89) Calculated (19)*(76)
Copayments-- 5% of costs ($bn)	1.14	1.17	1.2	1.22	1.24	1.26	1.34	(90) Calculated [(75)*0.05)]
Req'd contributions from ELF ($bn)	17.17	17.66	17.93	18.3	18.59	18.98	20.16	(91) Calculated [(75)-{(89)+(90)}]
Total Income ($bn)	22.8	23.3	23.9	24.4	24.8	25.3	26.9	(92) Same as (75)--rounded
Income-Revenue in GPP	Assume Gov't pays 100% for indigent; ELF for themselves and non-indigent population							
Gov't payments for indigent ($bn)	2.92	2.88	3.08	3.15	3.22	3.27	3.47	(93) Calculated (19)*(80)
Copayments--10% of costs ($bn	1.48	1.51	1.54	1.58	1.61	1.63	1.74	(94) Calculated [(79)*0.1]
Req'd contributions from ELF ($bn	10.44	10.68	10.79	11.03	11.27	11.43	12.16	(95) Calculated [(79)-{(93)+(94)}]
Total Income ($bn)	14.8	15.1	15.4	15.8	16.1	16.3	17.4	(96) Same as (79)--rounded
Income-Revenue in SAP	Assume Gov't pays 100% for indigent; ELF pays for themselves and non-indigent population							
Gov't payments for indigent ($bn)	4.76	4.73	5.06	5.18	5.27	5.38	5.70	(97) Calculated (19)*(84)
Copayments--15% of costs ($bn	3.62	3.71	3.8	3.88	3.95	4.04	4.27	(98) Calculated [(83)*0.15]
Req'd contributions from ELF ($bn	15.77	16.29	16.44	16.82	17.12	17.48	18.52	(99) Calculated [(83)-{(97)+(98)}]
Total Income ($bn)	24.2	24.7	25.3	25.9	26.3	26.9	28.5	(100) Same as (83)--rounded

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
F. Necessary PAYG Rate (%)								
and Contribution Share of Government								
Expected Income base ($bn)	173.9	177.9	189.8	192.7	195.6	198.5	207.6	(101) Same as (88)
Results for PT	Assume Gov't pays 100% for indigents; its workers and their dependents							
Req'd contributions---ELF ($bn)	17.17	17.66	17.93	18.3	18.59	18.98	20.16	(102) Same as (91)
PAYG Rate (%)	9.9	9.9	9.5	9.5	9.5	9.6	9.7	(103) Calculated (102)/(101)
Req'd contributions---Gov't ($bn)	6.72	6.77	6.74	6.89	7.01	7.14	7.60	(104) Calculated [(89)+{(102)*(31)}]
Gov't share in Total Cost (%)	29.5	29.1	28.2	28.2	28.3	28.2	28.3	(105) Calculated [(104)/(75)]
Results for GPP	Assume Gov't pays 100% for indigents, its workers and their dependents							
Req'd contributions--ELF ($bn)	10.44	10.68	10.79	11.03	11.27	11.43	12.16	(106) Same as (95)
PAYG Rate (%)	6	6	5.7	5.7	5.8	5.8	5.9	(107) Calculated (106)/(101)
Req'd contributions--Gov't ($bn)	4.28	4.27	4.27	4.36	4.46	4.53	4.81	(108) Calculated [(93)+{(106)*(31)}]
Gov't share in Total Cost (%)	28.8	28.3	27.7	27.7	27.7	27.7	27.7	(109) Calculated [(108)/(79)]
Results for SAP	Assume Gov't pays 100% for indigents, its workers and their dependents							
Req'd contributions--ELF ($bn)	15.77	16.29	16.44	16.82	17.12	17.48	18.52	(110) Same as (99)
PAYG Rate (%)	9.1	9.2	8.7	8.7	8.8	8.8	8.9	(111) Calculated (110)/(101)
Req'd contributions-Gov't ($bn)	6.81	6.85	6.87	7.03	7.15	7.3	7.74	(112) Calculated [(97) + {(110)*(31)
Gov't share in Total Cost (%)	28.2	27.7	27.2	27.2	27.2	27.1	27.2	(113) Calculated [(112)/(83)]

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
G. SCENARIO ANALYSIS--BEST CASE SCENARIO--								
Assumptions								
Real GDP ($bn)	382.2	391	398.8	408.8	419	429.5	462.5	(114) Assume real GDP grows 2.5% p.a. from '05-'10
Employed labour force--ELF (mn)	0.96	0.97	1.01	1.06	1.08	1.09	1.1	(115) Assume ELF increases to 90% from 2005-10
Total wages as % GDP	65	65	68	70	70	70	70	(116) Assume increase to 70% from 2005-10
Total real wage base ($bn)	248.4	254.2	271.2	286.2	293.3	300.7	323.8	(117) Calculated as (114)*(116)
Compliance rate	0.7	0.7	0.7	0.8	0.8	0.8	0.8	(118) Assume increase to 80% from '05-'10
Expected income base ($bn)	173.9	177.9	189.8	229.4	234.6	240.6	259	(119) Calculated as (117)*(118)
Utilisation, cost of benefit package and copayments remain at base levels								(120) Assumption
Administrative cost contained at 5% for PT; 10% for GPP and 10% for SAP								(121) Assumption
No. of persons in poverty ('000)	516	503	528	398	399	400	406	(122) Assume decline in indigency to 15% from '05-'10
Results for PT								
Benefit Package Cost ($bn)	22.26	22.79	23.31	23.84	24.26	24.68	26.25	(123) Sum of package cost (73) and 5% admin. cost
Gov't payments for indigents ($bn)	4.39	4.35	4.66	3.58	3.64	3.7	3.94	(124) Calc.(123)*(18) from '02-04; (123)*(0.15) from '05
Copayments--5% of cost ($bn)	1.11	1.14	1.17	1.19	1.21	1.23	1.31	(125) Calc. (123)*(0.05)
Req'd contributions from ELF $bn)	16.76	17.3	17.48	19.07	19.41	19.75	21.00	(126) Calc.(123)-[(124)+(125)]
PAYG Rate (%)	9.6	9.7	9.2	8.3	8.3	8.2	8.1	(127) Calc. (126)/(119)
Gov't share in total cost (%)	29.5	29	28.2	23.8	23.8	23.8	23.8	(128) Calc. [(124)+{(126)*(31)}]/(123)
Results for GPP								
Benefit Package Cost ($bn)	14.19	14.41	14.74	15.07	15.4	15.62	16.61	(129) Sum of package cost (77) and 10% admin. Cost
Gov't payments for indigents ($bn)	2.8	2.75	2.95	2.26	2.31	2.34	2.49	(130) Calc. (129)*(18) from '02-04; (129)*(0.15) from '05
Copayments--10% of cost ($bn)	1.42	1.44	1.47	1.51	1.54	1.56	1.66	(131) Calc. (129)*(0.10)
Req'd contributions from ELF $bn)	9.97	10.22	10.32	11.3	11.55	11.72	12.46	(132) Calc. (129)-[(130)+(131)]
PAYG Rate (%)	5.7	5.7	5.4	4.9	4.9	4.9	4.8	(133) Calc. (132)/(119)
Gov't share in total cost (%)	28.9	28.3	27.7	23.2	23.2	23.2	23.2	(134) Calc. [(130)+{(132)*(31)}]/(129)
Results for SAP								
Benefit Package Cost ($bn)	23.10	23.65	24.2	24.75	25.19	25.63	27.25	(135) Sum of package cost (81) and 10% admin. Cost
Gov't payments for indigents ($bn)	4.55	4.52	4.84	3.71	3.78	3.84	4.09	(136) Calc. (135)*(18) from '02-04; (135)*(0.15) from '05
Copayments--15% of cost ($bn)	3.47	3.55	3.63	3.71	3.78	3.84	4.09	(137) Calc. (135)*(0.15)
Req'd contributions from ELF $bn)	15.08	15.58	15.73	17.33	17.63	17.95	19.07	(138) Calc. (135)-[(136)+(137)]
PAYG Rate (%)	8.7	8.8	8.3	7.6	7.5	7.5	7.4	(139) Calc. (138)/(119)
Gov't share in total cost (%)	28.2	27.7	27.1	22.7	22.7	22.7	22.7	(140) Calc. [(136)+{(138)*(31)}]/(135)

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
Assumptions								
Real GDP ($bn)	382.2	391	398.8	400.8	402.8	404.8	410.9	(141) Assume real GDP grows 0.5% p.a. from '05-'10
Employed labour force--ELF (mn)	0.96	0.97	1.01	0.94	0.96	0.97	0.98	(142) Assume ELF decreases to 80% from '05--'10
Total wages as % GDP	65	65	68	62	62	62	62	(143) Assume decrease to 62% from '05-'10
Total real wage base ($bn)	248.4	254.2	271.2	248.5	249.7	251	254.8	(144) Calc. (141)*(143)
Compliance rate	0.7	0.7	0.7	0.65	0.65	0.65	0.65	(145) Assume decrease to 65% from '05-'10
Expected income base ($bn)	173.9	177.9	189.8	161.5	162.3	163.2	165.6	(146) Calc. (144)*(145)
Utilisation and cost of benefit package rise by 10%; copayments remain at base levels.								
Administrative cost increases to 10% for PT; 20% for GPP and 20% for SAP								
No. of persons in poverty ('000)	516	503	528	636	638	641	650	(147) Assume rise in indigency to 24% from '05-'10
Results for PT								
Benefit Package Cost ($bn)	25.65	26.26	26.86	27.47	27.95	28.44	30.25	(148) Sum:package cost (73)+ 10%+10% admin. cost
Gov't payments for indigents ($bn)	5.05	5.02	5.37	6.59	6.71	6.83	7.26	(149) Calc. (148)*(18) from '02-'04; (148)*(0.24) from '05
Copayments--5% of cost ($bn)	1.28	1.31	1.34	1.37	1.4	1.42	1.51	(150) Calc. (148)*(0.05)
Req'd contributions from ELF $bn)	19.32	19.93	20.15	19.51	19.84	20.19	21.48	(151) Calc. (148)-[(149)+(150)
PAYG Rate (%)	11.1	11.2	10.6	12.1	12.2	12.4	13	(152) Calc. (151)/(146)
Gov't share in total cost (%)	29.5	29	28.3	31.8	31.8	31.8	31.8	(153) Calc.[(149)+{(151)*(31)}]/(148)
Results for GPP								
Benefit Package Cost ($bn)	17.03	17.29	17.69	18.08	18.48	18.74	19.93	(154) Sum: package cost (77)+10%+20% admin.cost
Gov't payments for indigents ($bn)	3.35	3.3	3.54	4.34	4.44	4.5	4.78	(155) Calc. (154)*(18) from '02-'04; (154)*(0.24) from '05
Copayments--10% of cost ($bn)	1.7	1.73	1.77	1.81	1.85	1.87	1.99	(156) Calc. (154)*(0.10)
Req'd contributions from ELF $bn)	11.98	12.26	12.38	11.93	12.19	12.37	13.16	(157) Calc. (154)-[(155)+(156)]
PAYG Rate (%)	6.9	6.9	6.5	7.4	7.5	7.6	7.9	(158) Calc. (157)/(146)
Gov't share in total cost (%)	28.8	28.3	27.7	31.3	31.3	31.3	31.3	(159) Calc.[(155)+{(157)*(31)}]/(154)
Results for SAP								
Benefit Package Cost ($bn)	27.72	28.38	29.04	29.7	30.23	30.76	32.7	(160) Sum:package cost (81)+10%+20% admin.cost
Gov't payments for indigents ($bn)	5.46	5.42	5.81	7.13	7.26	7.38	7.85	(161) Calc. (160)*(18) from '02-'04; (160)*(0.24) from '05
Copayments--15% of cost ($bn)	4.16	4.26	4.36	4.46	4.53	4.61	4.91	(162) Calc. (160)*(0.15)
Req'd contributions from ELF $bn)	18.1	18.7	18.87	18.11	18.44	18.77	19.94	(163) Calc. (160)-[(161)+(162)]
PAYG Rate (%)	10.4	10.5	9.9	11.2	11.4	11.5	12	(164) Calc. (163)/(146)
Gov't share in total cost (%)	28.2	27.7	27.2	30.7	30.7	30.7	30.7	(165) Calc. [(161)+{(163)*(31)}]/(160)

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
I. SENSITIVITY ANALYSIS								
a) Compliance Rate--increases to 80% from 2005								
Expected income base ($bn)	173.9	177.9	189.8	229.4	234.6	240.6	259	(166) Same as (119)
Results for PT								
Req'd contributions from ELF($bn)	17.17	17.66	17.93	18.3	18.59	18.98	20.16	(167) Same as (91) and (102)
PAYG Rate (%)	9.9	9.9	9.5	8	7.9	7.9	7.8	(168) Calc. (167)/(166)
Gov't share in total cost (%)	29.5	29.1	28.2	28.2	28.3	28.2	28.3	(169) Same as (105)
Results for GPP								
Req'd contributions from ELF($bn)	10.44	10.68	10.79	11.03	11.27	11.43	12.16	(170) Same as (95) and (106)
PAYG Rate (%)	6	6	5.7	4.8	4.8	4.8	4.7	(171) Calc. (170)/(166)
Gov't share in total cost	28.8	28.3	27.7	27.7	27.7	27.7	27.7	(172) Same as (109)
Results for SAP								
Req'd contributions from ELF($bn)	15.77	16.29	16.44	16.82	17.12	17.48	18.52	(173) Same as (99) and (110)
PAYG Rate (%)	9.1	9.2	8.7	7.3	7.3	7.3	7.2	(174) Calc. (173)/(166)
Gov't share in total cost	28.2	27.7	27.2	27.2	27.2	27.1	27.2	(175) Same as (113)

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
b) Level of indigence rises to 24% from 2005								
No. of persons in poverty ('000)	516	503	528	636	638	641	650	(176) Same as (147)
Results for PT								
Total cost-revenue needed ($bn)	22.79	23.33	23.87	24.4	24.83	25.26	26.88	(177) Same as (75) and (92)
Gov't payments for indigent ($bn)	4.49	4.46	4.77	5.86	5.96	6.06	6.45	(178) Calc.(177)*(18) from '02-04; (177)*(0.24) from '05
Co-payments--5% of cost ($bn)	1.14	1.17	1.2	1.22	1.24	1.26	1.34	(179) Same as (90)
Req'd contributions -- ELF($bn)	17.16	17.7	17.9	17.32	17.63	17.94	19.09	(180) Calc. [(177)-{(178)+(179)}]
PAYG Rate (%)	9.9	9.9	9.5	9	9	9	9.2	(181) Calc. (180)/(101)
Gov't share in total cost (%)	29.5	29.1	28.2	31.8	31.8	31.8	31.8	(182) Calc.[(178)+(180)*(31)]/(177)
Results for GPP								
Total cost-revenue needed ($bn)	14.84	15.07	15.41	15.76	16.1	16.33	17.37	(183) Same as (79) and (96)
Gov't payments for indigent ($bn)	2.93	2.88	3.08	3.78	3.86	3.92	4.17	(184) Calc.(183)*(18) from '02-04; (183)*(0.24) from '05
Co-payments--10% of cost ($bn)	1.48	1.51	1.54	1.58	1.61	1.63	1.74	(185) Same as (94)
Req'd contributions -- ELF($bn)	10.43	10.68	10.79	10.4	10.63	10.78	11.46	(186) Calc.[(183)-{(184)+(185)}]
PAYG Rate (%)	6	6	5.7	5.4	5.4	5.4	5.5	(187) Calc. (186)/(101)
Gov't share in total cost (%)	28.9	28.3	27.7	31.2	31.2	31.3	31.3	(188) Calc. [(184)+{(186)*(31)}]/183
Results for SAP								
Total cost-revenue needed ($bn)	24.15	24.73	25.3	25.88	26.34	26.9	28.49	(189) Same as (83) and (100)
Gov't payments for indigent ($bn)	4.76	4.72	5.06	6.21	6.32	6.46	6.84	(190) Calc.(189)*(18) from '02-'04; (189)*(0.24) from '05
Co-payments--15% of cost ($bn)	3.62	3.71	3.8	3.88	3.95	4.04	4.27	(191) Same as (98)
Req'd contributions -- ELF($bn)	15.77	16.3	16.44	15.79	16.07	16.4	17.38	(192) Calc. [(189)-{(190)+(191)}]
PAYG Rate (%)	9.1	9.2	8.7	8.2	8.2	8.3	8.4	(193) Calc. (192)/(101)
Gov't share in total cost (%)	28.2	27.7	27.2	30.7	30.7	30.7	30.7	(194) Calc. [(190)+{(192)*(31)}]/(189)

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
c) Increase in Utilisation and Cost of Health Services by 10%								
Results for PT								
Total cost of benefit package ($bn)	25.07	25.66	26.25	26.84	27.32	27.79	29.56	(195) Calc. (75)*(1.1)
Gov't payments for indigent ($bn)	4.94	4.9	5.25	5.37	5.46	5.56	5.91	(196) Calc. (195)*(18)
Co-payments--5% of cost ($bn)	1.25	1.28	1.31	1.34	1.37	1.39	1.48	(197) Calc. (195)*(0.05)
Req'd contributions -- ELF($bn)	18.88	19.48	19.69	20.13	20.49	20.84	22.17	(198) Calc. (195)-[(196)+(197)]
PAYG Rate (%)	10.9	10.9	10.4	10.4	10.5	10.5	10.7	(199) Calc. (198)/(101)
Gov't share in total cost (%)	29.5	29.1	28.2	28.2	28.3	28.2	28.3	(200) Same as (105)
Results for GPP								
Total cost of benefit package ($bn)	16.32	16.58	16.95	17.34	17.71	17.96	19.11	(201) Calc. (79)*(1.1)
Gov't payments for indigent ($bn)	3.22	3.17	3.39	3.47	3.54	3.59	3.82	(202) Calc. (201)*(18)
Co-payments--10% of cost ($bn)	1.63	1.66	1.7	1.73	1.77	1.8	1.91	(203) Calc. (201)*(0.1)
Req'd contributions -- ELF($bn)	11.47	11.75	11.86	12.14	12.4	12.57	13.38	(204) Calc. (201)-[(202)+(203)]
PAYG Rate (%)	6.6	6.6	6.3	6.3	6.3	6.3	6.4	(205) Calc. (204)/(101)
Gov't share in total cost (%)	28.8	28.3	27.7	27.7	27.7	27.7	27.7	(206) Same as (109)
Results for SAP								
Total cost of benefit package ($bn)	26.57	27.2	27.83	28.47	28.97	29.59	31.34	(207) Calc. (83)*(1.1)
Gov't payments for indigent ($bn)	5.23	5.2	5.57	5.69	5.8	5.92	6.27	(208) Calc. (207)*(18)
Co-payments--15% of cost ($bn)	3.99	4.08	4.17	4.27	4.35	4.44	4.7	(209) Calc. (207)*(0.15)
Req'd contributions -- ELF($bn)	17.35	17.92	18.09	18.51	18.82	19.23	20.37	(210) Calc. (207)-[(208)+(209)]
PAYG Rate (%)	10	10.1	9.5	9.6	9.6	9.7	9.8	(211) Calc. (210)/(101)
Gov't share in total cost (%)	28.2	27.7	27.2	27.2	27.2	27.1	27.2	(212) Same as (113)

Variables	2002	2003	2004	2005	2006	2007	2010	Comments/Calculation Notes
d) Increase in Copayments to 10% in PT; 15% in GPP and 20% in SAP								
Results for PT								
Total cost of benefit package ($bn	22.79	23.33	23.87	24.4	24.83	25.26	26.88	(213) Same as (75)
Copayments---10% of cost ($bn)	2.28	2.33	2.39	2.44	2.48	2.53	2.69	(214) Calc. (213)*(0.1)
Gov't payments for indigent ($bn)	4.49	4.46	4.77	4.88	4.97	5.05	5.38	(215) Same as (89)
Req'd contributions--ELF ($bn)	16.02	16.54	16.71	17.08	17.38	17.68	18.81	(216) Calc. (213)-[(214)+(215)]
PAYG Rate (%)	9.2	9.3	8.8	8.9	8.9	8.9	9.1	(217) Calc. (216)/(101)
Gov't share in total cost (%)	28.8	28.3	27.7	27.7	27.7	27.7	27.7	(218) Calc. [(215)+{(216)*(31)}]/(213)
Results for GPP								
Total cost of benefit package ($bn	14.84	15.07	15.41	15.76	16.1	16.33	17.37	(219) Same as (79)
Copayments---15% of cost ($bn)	2.23	2.26	2.31	2.36	2.42	2.45	2.61	(220) Calc. (219)*(0.15)
Gov't payments for indigent ($bn)	2.92	2.88	3.08	3.15	3.22	3.27	3.47	(221) Same as (93)
Req'd contributions--ELF ($bn)	9.69	9.93	10.02	10.25	10.46	10.61	11.29	(222) Calc. (219)-[(220)+(221)]
PAYG Rate (%)	5.6	5.6	5.3	5.3	5.3	5.3	5.4	(223) Calc. (222)/(101)
Gov't share in total cost (%)	28.2	27.7	27.1	27.2	27.1	27.2	27.1	(224) Calc. [(221)+{(222)*(31)}]/(219)
Results for SAP								
Total cost of benefit package ($bn	24.15	24.73	25.3	25.88	26.34	26.9	28.49	(225) Same as (83)
Copayments---20% of cost ($bn)	4.83	4.95	5.06	5.18	5.27	5.38	5.7	(226) Calc. (225)*(0.2)
Gov't payments for indigent ($bn)	4.76	4.73	5.06	5.18	5.27	5.38	5.7	(227) Same as (97)
Req'd contributions--ELF ($bn)	14.56	15.05	15.18	15.52	15.8	16.14	17.09	(228) Calc. (225)-[(226)+(227)]
PAYG Rate (%)	8.4	8.5	8	8.1	8.1	8.1	8.2	(229) Calc. (228)/(101)
Gov't share in total cost (%)	27.5	27.1	26.6	26.6	26.6	26.6	26.6	(230) Calc. [(227)+{(228)*(31)}]/(225)